

ACTIVITY PERTEMUAN 5

Nama : Aditya Rachmansyah Hamid

Kelas : 4IA28

NPM : 50421048

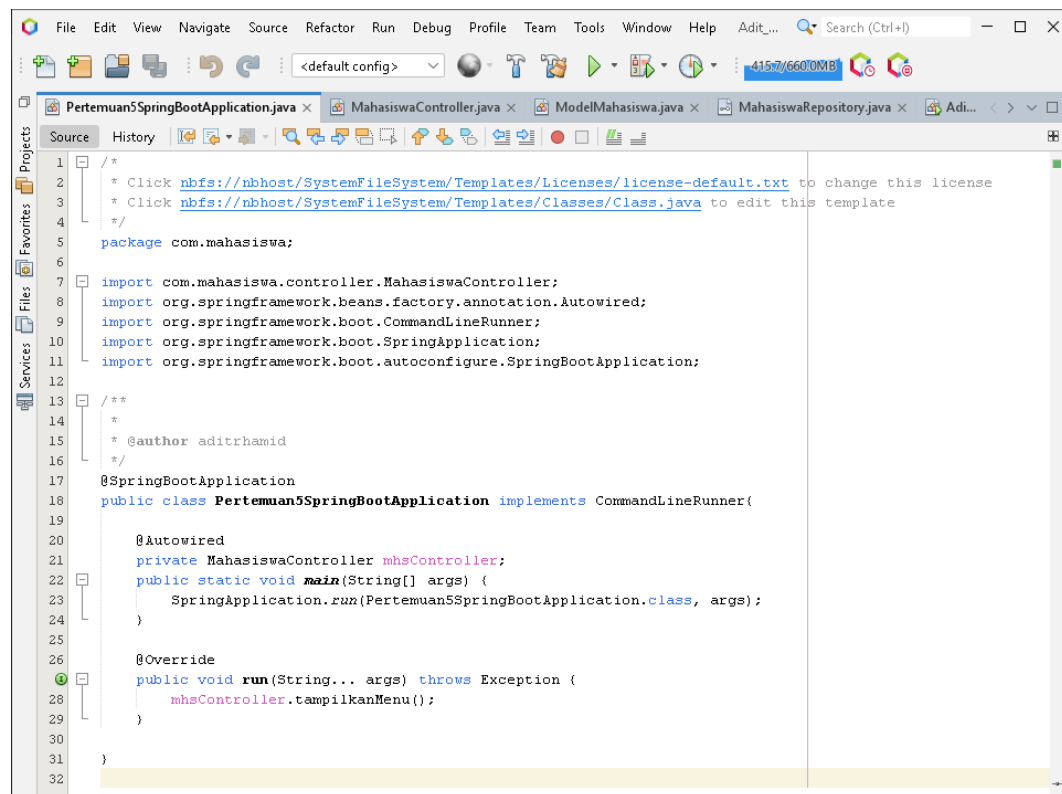
Mata Praktikum : Rekayasa Perangkat Lunak 2

Soal:

Mengikuti instruksi dari PJ

Jawab:

Pertemuan5SpringBootApplication.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 com.mahasiswa;
6
7  import com.mahasiswa.controller.MahasiswaController;
8  import org.springframework.beans.factory.annotation.Autowired;
9  import org.springframework.boot.CommandLineRunner;
10 import org.springframework.boot.SpringApplication;
11 import org.springframework.boot.autoconfigure.SpringBootApplication;
12
13 /**
14 *
15 * @author aditrhamid
16 */
17 @SpringBootApplication
18 public class Pertemuan5SpringBootApplication implements CommandLineRunner{
19
20     @Autowired
21     private MahasiswaController mhsController;
22     public static void main(String[] args) {
23         SpringApplication.run(Pertemuan5SpringBootApplication.class, args);
24     }
25
26     @Override
27     public void run(String... args) throws Exception {
28         mhsController.tampilkanMenu();
29     }
30
31 }
32
```

MahasiswaController.java:

```
File Edit View Navigate Source Refactor Run Debug Profile Team Tools Window Help Adit... Search (Ctrl+I)
<default config> 3397/6640MB
Pertemuan5SpringBootApplication.java x MahasiswaController.java x ModelMahasiswa.java x MahasiswaRepository.java x Adit... < > v
Source History
Projects
Favorites
File
Services
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91
/*
 * 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 com.mahasiswa.controller;

import com.mahasiswa.model.ModelMahasiswa;
import com.mahasiswa.repository.MahasiswaRepository;
import org.springframework.beans.factory.annotation.Autowired;
import org.springframework.stereotype.Controller;

import java.util.List;
import java.util.Scanner;

/**
 *
 * @author aditrhamid
 */
@Controller
public class MahasiswaController {

    @Autowired
    private MahasiswaRepository mahasiswaRepository;

    public void tampilkanMenu() {
        Scanner scanner = new Scanner(System.in);
        int opsi;

        do {
            System.out.println("\nMenu:");
            System.out.println("1. Tampilkan semua mahasiswa");
            System.out.println("2. Tambah mahasiswa baru");
            System.out.println("3. Cek koneksi database");
            System.out.println("4. Keluar");
            System.out.print("Pilih opsi: ");
            opsi = scanner.nextInt();
            scanner.nextLine(); // menangkap newline

            switch (opsi) {
                case 1:
                    tampilkanSemuaMahasiswa();
                    break;
                case 2:
                    tambahMahasiswa(scanner);
                    break;
                case 3:
                    cekKoneksi();
                    break;
                case 4:
                    System.out.println("Keluar dari program.");
                    break;
                default:
                    System.out.println("Ops! tidak valid, coba lagi.");
            }

        } while (opsi != 4);
    }

    private void tampilkanSemuaMahasiswa() {
        List<ModelMahasiswa> mahasiswaList = mahasiswaRepository.findAll();
        if (mahasiswaList.isEmpty()) {
            System.out.println("Tidak ada data mahasiswa.");
        } else {
            mahasiswaList.forEach(mahasiswa -> System.out.println(mahasiswa));
        }
    }

    private void tambahMahasiswa(Scanner scanner) {
        System.out.print("Masukkan NPM : ");
        String npm = scanner.nextLine();
        System.out.print("Masukkan Nama : ");
        String nama = scanner.nextLine();
        System.out.print("Masukkan Semester : ");
        int semester = scanner.nextInt();
        System.out.print("Masukkan IPK : ");
        float ipk = scanner.nextFloat();

        ModelMahasiswa mahasiswa = new ModelMahasiswa(0, npm, nama, semester, ipk);
        mahasiswaRepository.save(mahasiswa);
        System.out.println("Mahasiswa berhasil ditambahkan.");
    }

    private void cekKoneksi() {
        try {
            mahasiswaRepository.findAll();
            System.out.println("Koneksi ke database berhasil.");
        } catch (Exception e) {
            System.out.println("Gagal terhubung ke database.");
        }
    }
}
```

ModelMahasiswa.java:

```
File Edit View Navigate Source Refactor Run Debug Profile Team Tools Window Help
<default config>
Pertemuan5SpringBootApplication.java x MahasiswaController.java x ModelMahasiswa.java x MahasiswaRepository.java x
Source History
ModelMahasiswa.java
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100 101 102 103 104 105 106 107 108 109 110 111 112 113 114 115 116 117 118 119 120 121 122 123 124 125 126 127 128

/**
 * Click https://nbhost/SystemFileSystem/Templates/Licenses/license-default.txt to change this license
 * Click https://nbhost/SystemFileSystem/Templates/Classes/Class.java to edit this template
 */
package com.mahasiswa.model;

import jakarta.persistence.*;

/**
 *
 * @author aditrhamid
 */
@Entity
@Table(name = "mahasiswa")

public class ModelMahasiswa {

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

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

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

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

    @Column(name = "ipk")
    private float ipk;

    public ModelMahasiswa() {

    }

    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;
    }

    /**
     * @return the id
     */
    public int getId() {
        return id;
    }

    /**
     * @param id the id to set
     */
    public void setId(int id) {
        this.id = id;
    }

    /**
     * @return the semester
     */
    public int getSemester() {
        return semester;
    }

    /**
     * @param semester the semester to set
     */
    public void setSemester(int semester) {
        this.semester = semester;
    }

    /**
     * @return the npm
     */
    public String getNpm() {
        return npm;
    }

    /**
     * @param npm the npm to set
     */
    public void setNpm(String npm) {
        this.npm = npm;
    }

    /**
     * @return the nama
     */
    public String getNama() {
        return nama;
    }

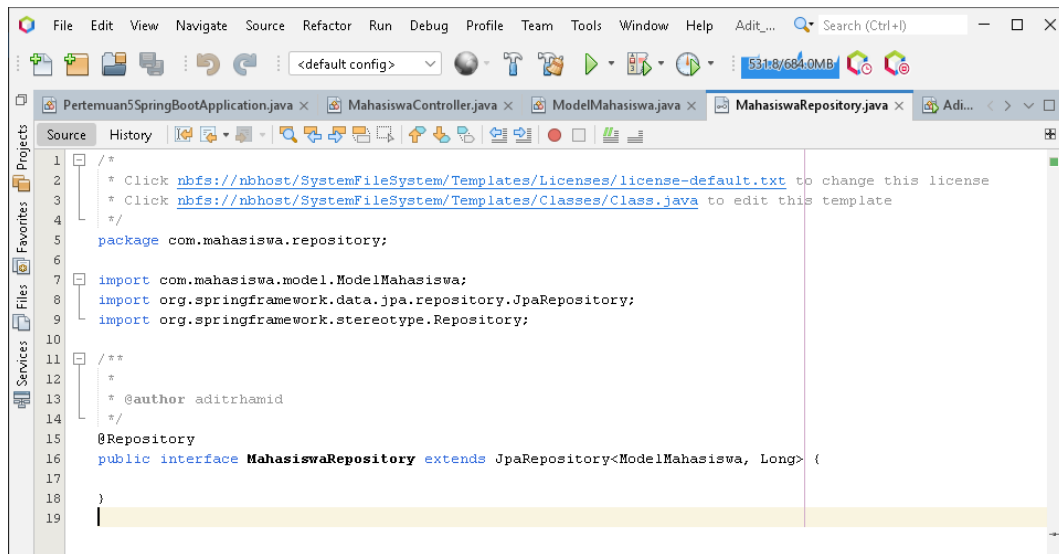
    /**
     * @param nama the nama to set
     */
    public void setNama(String nama) {
        this.nama = nama;
    }

    /**
     * @return the ipk
     */
    public float getIpk() {
        return ipk;
    }

    /**
     * @param ipk the ipk to set
     */
    public void setIpk(float ipk) {
        this.ipk = ipk;
    }

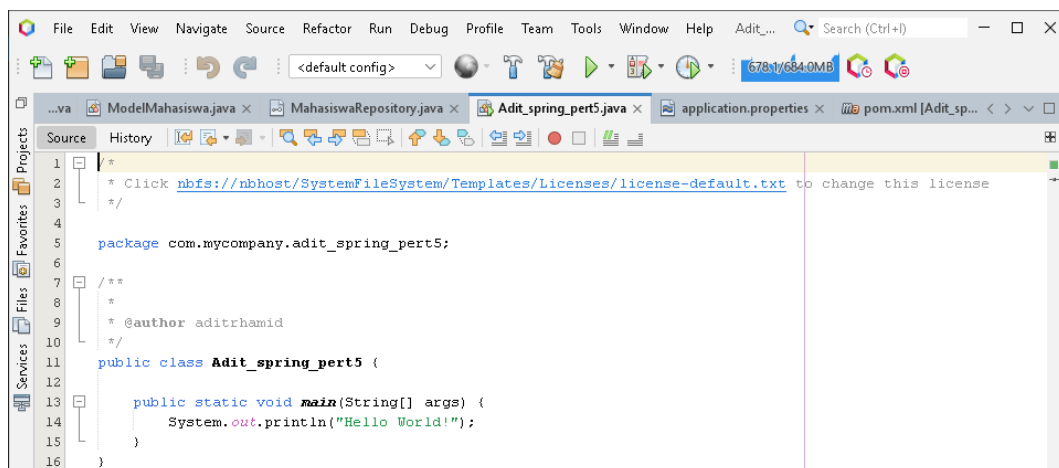
    @Override
    public String toString() {
        return "Mahasiswa(" +
            "id=" + id +
            ", npm=" + npm + '\n' +
            ", nama=" + nama + '\n' +
            ", semester=" + semester + '\n' +
            ", ipk=" + ipk + '\n' +
            ')';
    }
}
```

MahasiswaRepository.java:



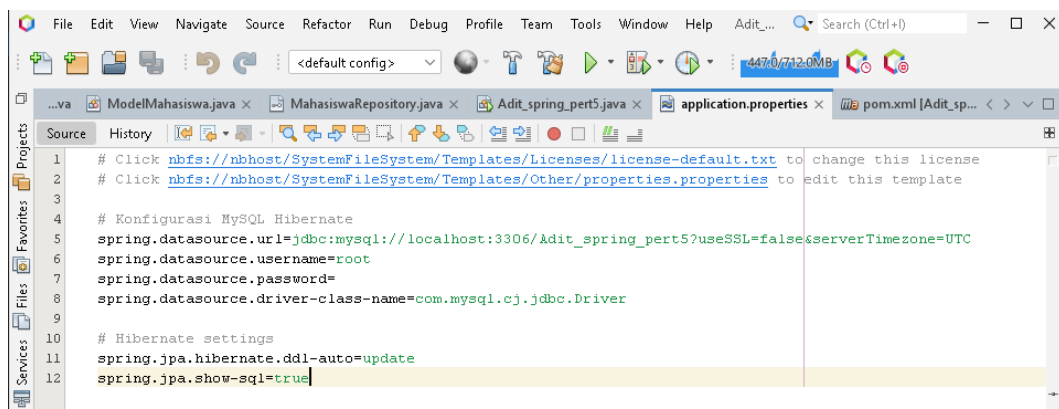
```
1  /*
2  * Click nbfs://nbhost/SystemFileSystem/Templates/Licenses/license-default.txt to change this license
3  * Click nbfs://nbhost/SystemFileSystem/Templates/Classes/Class.java to edit this template
4  */
5  package com.mahasiswa.repository;
6
7  import com.mahasiswa.model.ModelMahasiswa;
8  import org.springframework.data.jpa.repository.JpaRepository;
9  import org.springframework.stereotype.Repository;
10
11  /**
12   *
13   * @author aditrhamid
14   */
15  @Repository
16  public interface MahasiswaRepository extends JpaRepository<ModelMahasiswa, Long> {
17
18  }
19  }
```

Adit_spring_pert5.java:



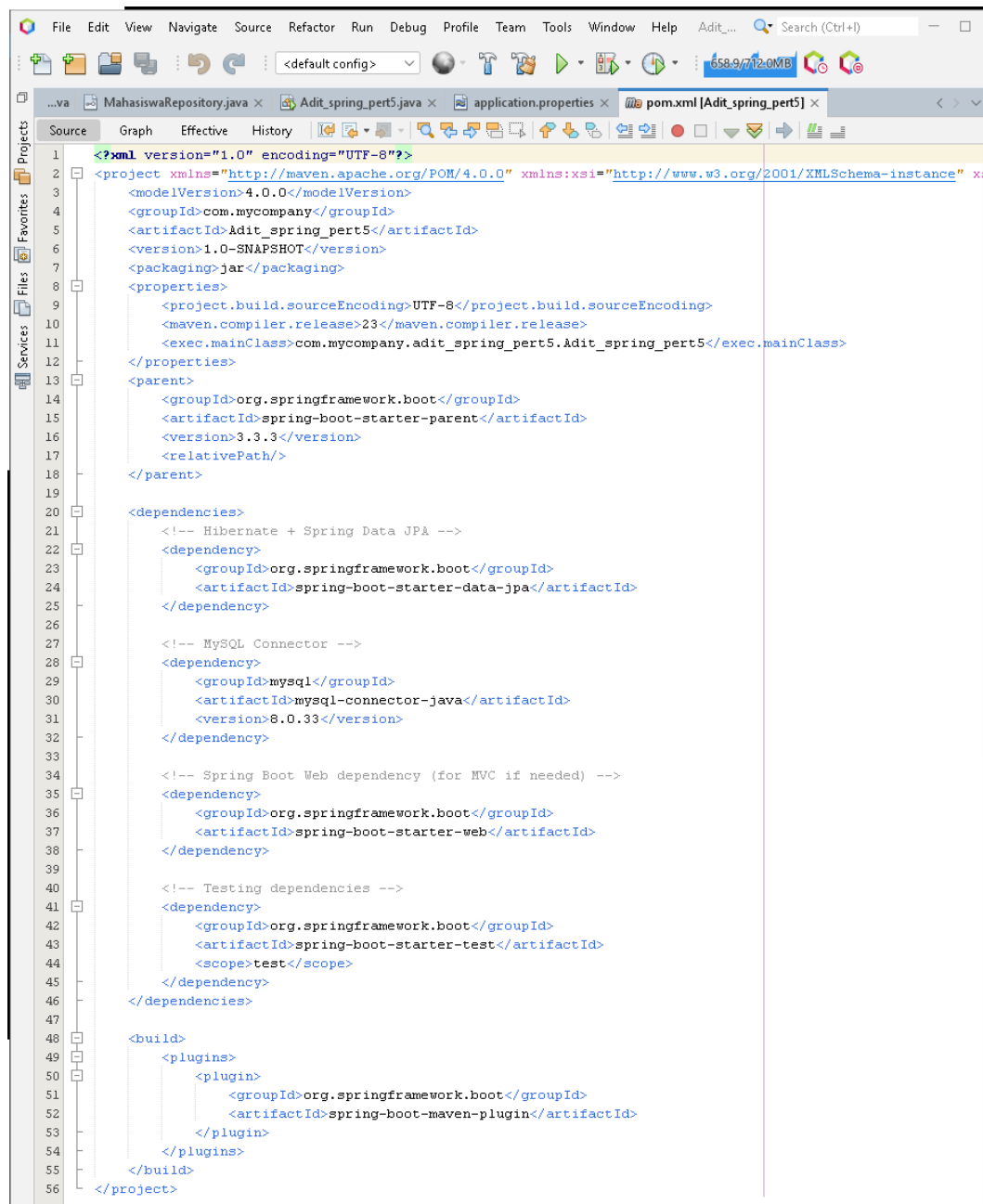
```
1  /*
2  * Click nbfs://nbhost/SystemFileSystem/Templates/Licenses/license-default.txt to change this license
3  * Click nbfs://nbhost/SystemFileSystem/Templates/Other/properties.properties to edit this template
4  */
5  package com.mycompany.adit_spring_pert5;
6
7  /**
8   *
9   * @author aditrhamid
10  */
11  public class Adit_spring_pert5 {
12
13      public static void main(String[] args) {
14          System.out.println("Hello World!");
15      }
16  }
```

application.properties:



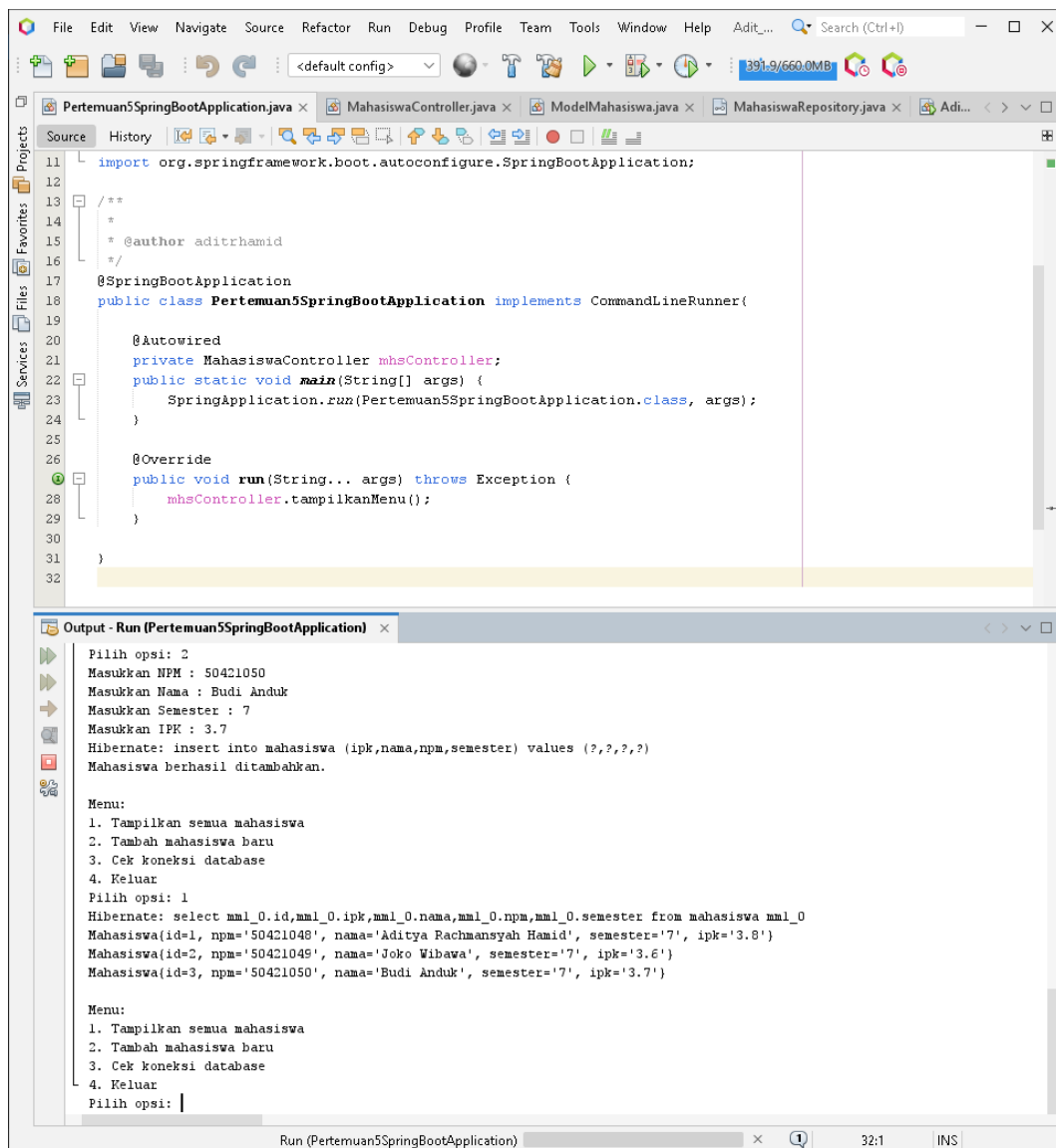
```
1  # Click nbfs://nbhost/SystemFileSystem/Templates/Licenses/license-default.txt to change this license
2  # Click nbfs://nbhost/SystemFileSystem/Templates/Other/properties.properties to edit this template
3
4  # Konfigurasi MySQL Hibernate
5  spring.datasource.url=jdbc:mysql://localhost:3306/Adit_spring_pert5?useSSL=false&serverTimezone=UTC
6  spring.datasource.username=root
7  spring.datasource.password=
8  spring.datasource.driver-class-name=com.mysql.cj.jdbc.Driver
9
10 # Hibernate settings
11 spring.jpa.hibernate.ddl-auto=update
12 spring.jpa.show-sql=true
```

pom.xml:



```
1 <?xml version="1.0" encoding="UTF-8"?>
2 <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">
3   <modelVersion>4.0.0</modelVersion>
4   <groupId>com.mycompany</groupId>
5   <artifactId>Adit_spring_pert5</artifactId>
6   <version>1.0-SNAPSHOT</version>
7   <packaging>jar</packaging>
8   <properties>
9     <project.build.sourceEncoding>UTF-8</project.build.sourceEncoding>
10    <maven.compiler.release>23</maven.compiler.release>
11    <exec.mainClass>com.mycompany.adit_spring_pert5.Adit_spring_pert5</exec.mainClass>
12  </properties>
13  <parent>
14    <groupId>org.springframework.boot</groupId>
15    <artifactId>spring-boot-starter-parent</artifactId>
16    <version>3.3.3</version>
17    <relativePath/>
18  </parent>
19
20  <dependencies>
21    <!-- Hibernate + Spring Data JPA -->
22    <dependency>
23      <groupId>org.springframework.boot</groupId>
24      <artifactId>spring-boot-starter-data-jpa</artifactId>
25    </dependency>
26
27    <!-- MySQL Connector -->
28    <dependency>
29      <groupId>mysql</groupId>
30      <artifactId>mysql-connector-java</artifactId>
31      <version>8.0.33</version>
32    </dependency>
33
34    <!-- Spring Boot Web dependency (for MVC if needed) -->
35    <dependency>
36      <groupId>org.springframework.boot</groupId>
37      <artifactId>spring-boot-starter-web</artifactId>
38    </dependency>
39
40    <!-- Testing dependencies -->
41    <dependency>
42      <groupId>org.springframework.boot</groupId>
43      <artifactId>spring-boot-starter-test</artifactId>
44      <scope>test</scope>
45    </dependency>
46  </dependencies>
47
48  <build>
49    <plugins>
50      <plugin>
51        <groupId>org.springframework.boot</groupId>
52        <artifactId>spring-boot-maven-plugin</artifactId>
53      </plugin>
54    </plugins>
55  </build>
56 </project>
```

Output:



The screenshot displays an IDE with the following components:

- Source Editor:** Contains the code for `Pertemuan5SpringBootApplication.java`. The code imports `org.springframework.boot.autoconfigure.SpringBootApplication`, includes a Javadoc comment for the author, and defines the `Pertemuan5SpringBootApplication` class which implements `CommandLineRunner`. It features an `@Autowired` `MahasiswaController` and a `main` method that runs the application. The `run` method overrides the `CommandLineRunner` interface and calls `mhsController.tampilkanMenu()`.
- Output Console:** Shows the execution output for `Pertemuan5SpringBootApplication`. It displays user input for NPM (50421050), Name (Budi Anduk), and Semester (7), followed by a Hibernate SQL insert statement and a confirmation message. It then shows the menu options and the user's selection of option 1, which triggers another Hibernate SQL query to retrieve student data from the database.

```
import org.springframework.boot.autoconfigure.SpringBootApplication;

/**
 * @author aditrhamid
 */
@SpringBootApplication
public class Pertemuan5SpringBootApplication implements CommandLineRunner {

    @Autowired
    private MahasiswaController mhsController;

    public static void main(String[] args) {
        SpringApplication.run(Pertemuan5SpringBootApplication.class, args);
    }

    @Override
    public void run(String... args) throws Exception {
        mhsController.tampilkanMenu();
    }
}
```

Output - Run (Pertemuan5SpringBootApplication)

Pilih opsi: 2
Masukkan NPM : 50421050
Masukkan Nama : Budi Anduk
Masukkan Semester : 7
Masukkan IPK : 3.7
Hibernate: insert into mahasiswa (ipk,nama,npm,semester) values (?,?,?,?)
Mahasiswa berhasil ditambahkan.

Menu:
1. Tampilkan semua mahasiswa
2. Tambah mahasiswa baru
3. Cek koneksi database
4. Keluar
Pilih opsi: 1
Hibernate: select mml_0.id,mml_0.ipk,mml_0.nama,mml_0.npm,mml_0.semester from mahasiswa mml_0
Mahasiswa(id=1, npm='50421048', nama='Aditya Rachmansyah Hamid', semester='7', ipk='3.8')
Mahasiswa(id=2, npm='50421049', nama='Joko Wibawa', semester='7', ipk='3.6')
Mahasiswa(id=3, npm='50421050', nama='Budi Anduk', semester='7', ipk='3.7')

Menu:
1. Tampilkan semua mahasiswa
2. Tambah mahasiswa baru
3. Cek koneksi database
4. Keluar
Pilih opsi: |

ACTIVITY PERTEMUAN 6

Nama : Aditya Rachmansyah Hamid

Kelas : 4IA28

NPM : 50421048

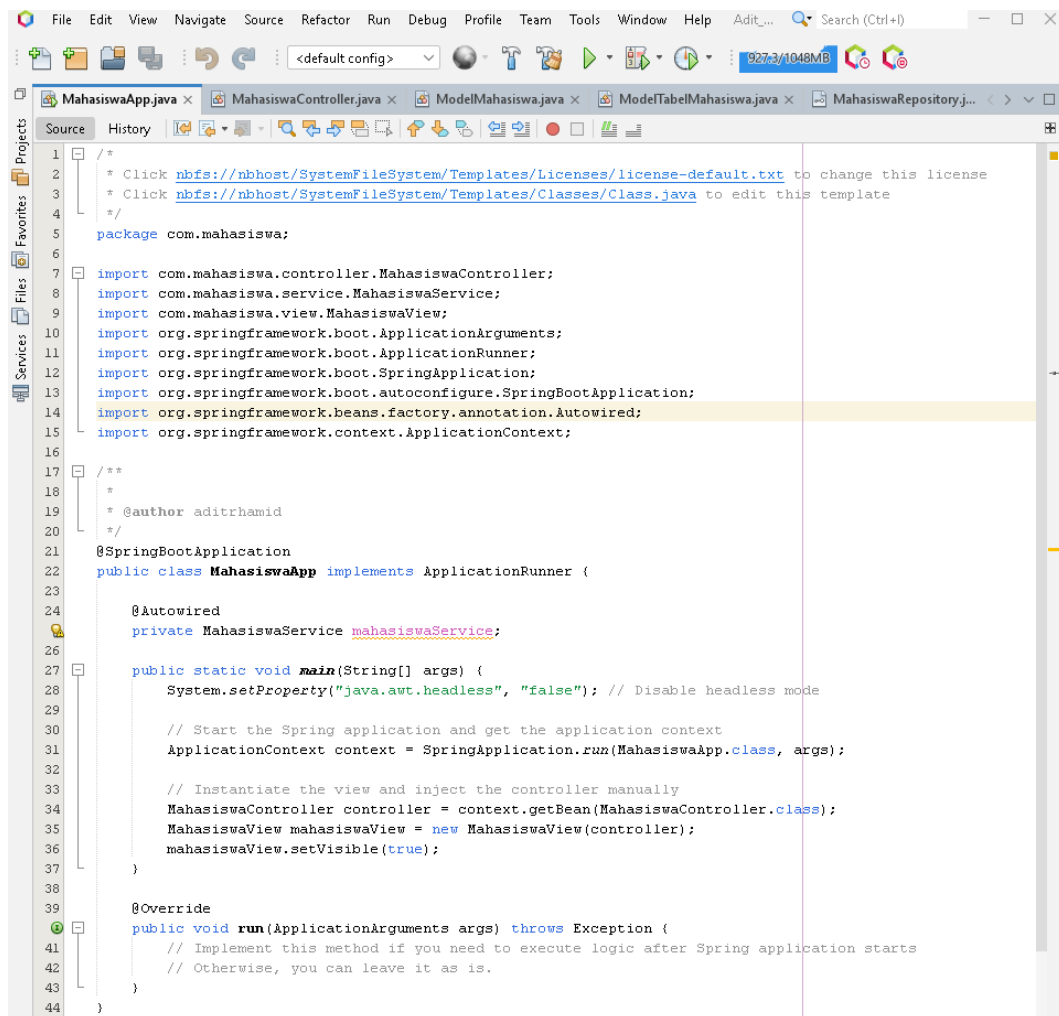
Mata Praktikum : Rekayasa Perangkat Lunak 2

Soal:

Mengikuti instruksi dari PJ

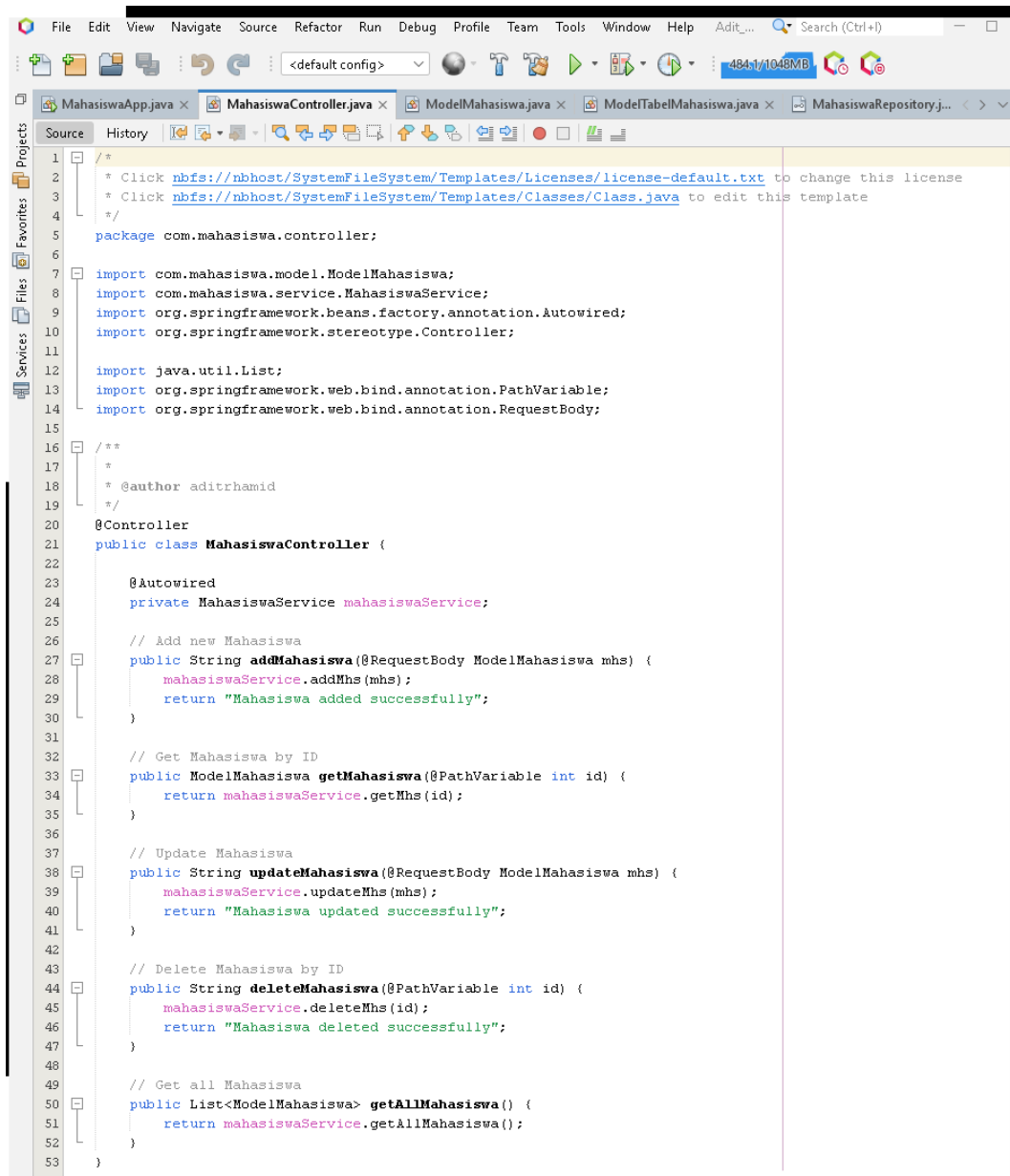
Jawab:

MahasiswaApp.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 com.mahasiswa;
6
7  import com.mahasiswa.controller.MahasiswaController;
8  import com.mahasiswa.service.MahasiswaService;
9  import com.mahasiswa.view.MahasiswaView;
10 import org.springframework.boot.ApplicationArguments;
11 import org.springframework.boot.ApplicationRunner;
12 import org.springframework.boot.SpringApplication;
13 import org.springframework.boot.autoconfigure.SpringBootApplication;
14 import org.springframework.beans.factory.annotation.Autowired;
15 import org.springframework.context.ApplicationContext;
16
17 /**
18 *
19 * @author aditrhamid
20 */
21 @SpringBootApplication
22 public class MahasiswaApp implements ApplicationRunner {
23
24     @Autowired
25     private MahasiswaService mahasiswaService;
26
27     public static void main(String[] args) {
28         System.setProperty("java.awt.headless", "false"); // Disable headless mode
29
30         // Start the Spring application and get the application context
31         ApplicationContext context = SpringApplication.run(MahasiswaApp.class, args);
32
33         // Instantiate the view and inject the controller manually
34         MahasiswaController controller = context.getBean(MahasiswaController.class);
35         MahasiswaView mahasiswaView = new MahasiswaView(controller);
36         mahasiswaView.setVisible(true);
37     }
38
39     @Override
40     public void run(ApplicationArguments args) throws Exception {
41         // Implement this method if you need to execute logic after Spring application starts
42         // Otherwise, you can leave it as is.
43     }
44 }
```

MahasiswaController.java:

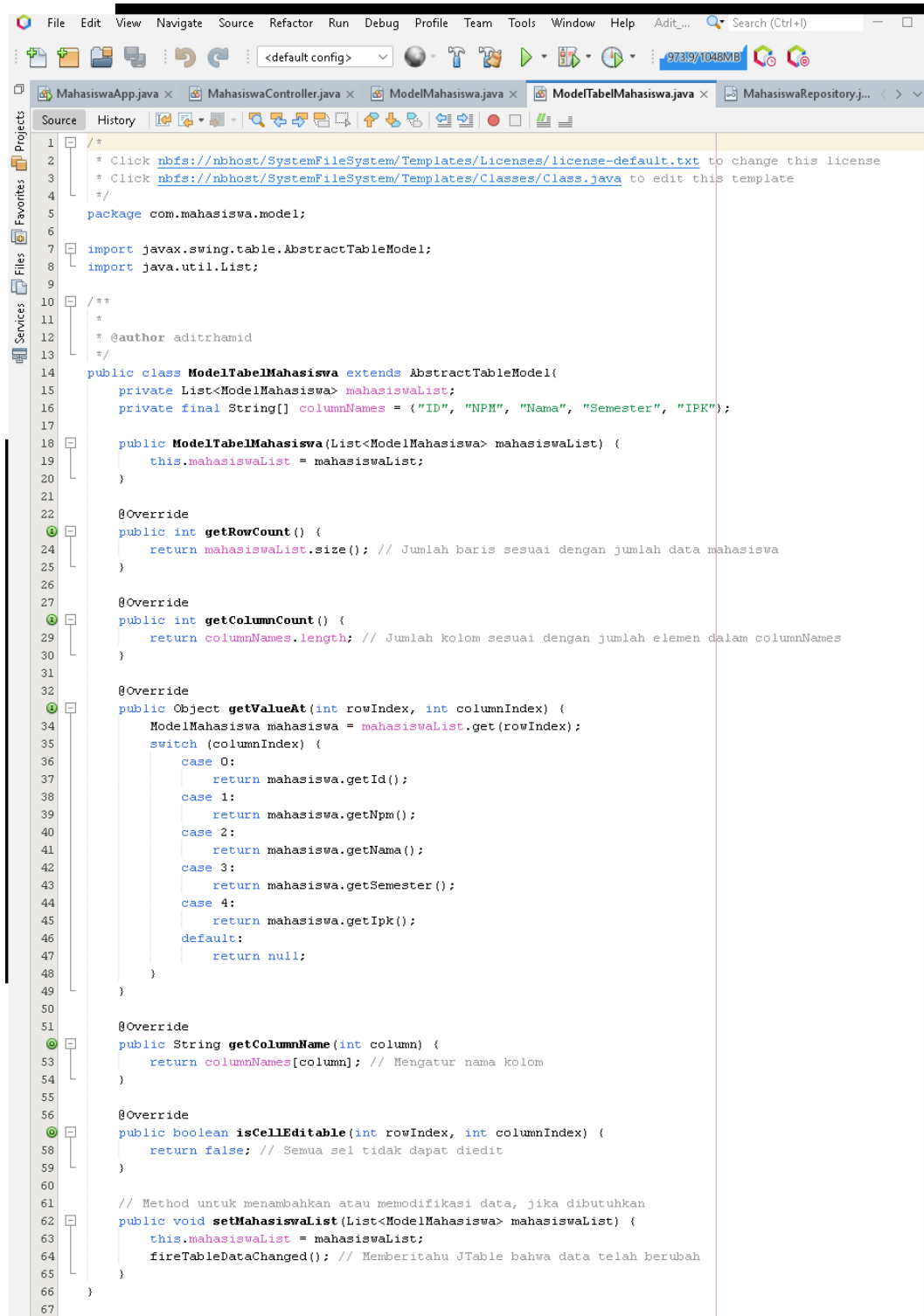


```
1  /*
2  * Click nbfs://nbhost/SystemFileSystem/Templates/Licenses/license-default.txt to change this license
3  * Click nbfs://nbhost/SystemFileSystem/Templates/Classes/Class.java to edit this template
4  */
5  package com.mahasiswa.controller;
6
7  import com.mahasiswa.model.ModelMahasiswa;
8  import com.mahasiswa.service.MahasiswaService;
9  import org.springframework.beans.factory.annotation.Autowired;
10 import org.springframework.stereotype.Controller;
11
12 import java.util.List;
13 import org.springframework.web.bind.annotation.PathVariable;
14 import org.springframework.web.bind.annotation.RequestBody;
15
16 /**
17 *
18 * @author aditrhamid
19 */
20 @Controller
21 public class MahasiswaController {
22
23     @Autowired
24     private MahasiswaService mahasiswaService;
25
26     // Add new Mahasiswa
27     public String addMahasiswa(@RequestBody ModelMahasiswa mhs) {
28         mahasiswaService.addMhs(mhs);
29         return "Mahasiswa added successfully";
30     }
31
32     // Get Mahasiswa by ID
33     public ModelMahasiswa getMahasiswa(@PathVariable int id) {
34         return mahasiswaService.getMhs(id);
35     }
36
37     // Update Mahasiswa
38     public String updateMahasiswa(@RequestBody ModelMahasiswa mhs) {
39         mahasiswaService.updateMhs(mhs);
40         return "Mahasiswa updated successfully";
41     }
42
43     // Delete Mahasiswa by ID
44     public String deleteMahasiswa(@PathVariable int id) {
45         mahasiswaService.deleteMhs(id);
46         return "Mahasiswa deleted successfully";
47     }
48
49     // Get all Mahasiswa
50     public List<ModelMahasiswa> getAllMahasiswa() {
51         return mahasiswaService.getAllMahasiswa();
52     }
53 }
```


ModelMahasiswa.java:

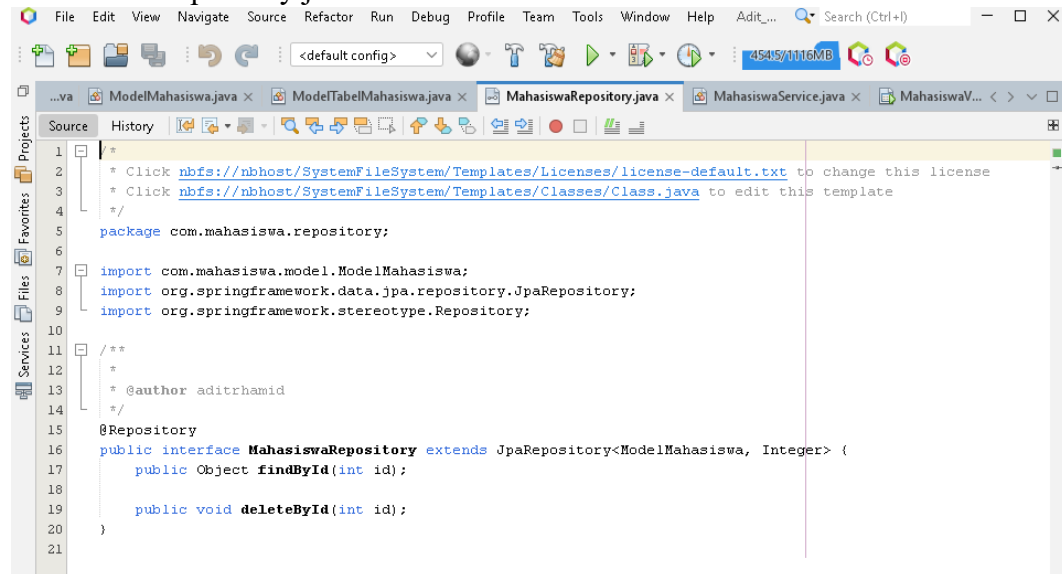
```
File Edit View Navigate Source Refactor Run Debug Profile Team Tools Window Help
<default config>
MahasiswaApp.java x MahasiswaController.java x ModelMahasiswa.java x MahasiswaRepository.j...
Source History
1 /**
2  * Click https://nbhost/SystemFileSystem/Templates/Licenses/license-default.txt to change this license
3  * Click https://nbhost/SystemFileSystem/Templates/Classes/Class.java to edit this template
4  */
5 package com.mahasiswa.model;
6
7 import jakarta.persistence.*;
8
9 /**
10  *
11  * @author aditramid
12  */
13 @Entity
14 @Table(name = "mahasiswa")
15
16 public class ModelMahasiswa {
17     @Id
18     @GeneratedValue(strategy = GenerationType.IDENTITY)
19
20     @Column(name = "id")
21     private int id;
22
23     @Column(name = "semester")
24     private int semester;
25
26     @Column(name = "npm", nullable = false, length = 8)
27     private String npm;
28
29     @Column(name = "nama", nullable = false, length = 50)
30     private String nama;
31
32     @Column(name = "ipk")
33     private float ipk;
34
35     public ModelMahasiswa() {
36
37     }
38
39     public ModelMahasiswa(int id, String npm, String nama, int semester, float ipk) {
40         this.id = id;
41         this.npm = npm;
42         this.nama = nama;
43         this.semester = semester;
44         this.ipk = ipk;
45     }
46
47     /**
48      * @return the id
49      */
50     public int getId() {
51         return id;
52     }
53
54     /**
55      * @param id the id to set
56      */
57     public void setId(int id) {
58         this.id = id;
59     }
60
61     /**
62      * @return the semester
63      */
64     public int getSemester() {
65         return semester;
66     }
67
68     /**
69      * @param semester the semester to set
70      */
71     public void setSemester(int semester) {
72         this.semester = semester;
73     }
74
75     /**
76      * @return the npm
77      */
78     public String getNpm() {
79         return npm;
80     }
81
82     /**
83      * @param npm the npm to set
84      */
85     public void setNpm(String npm) {
86         this.npm = npm;
87     }
88
89     /**
90      * @return the nama
91      */
92     public String getNama() {
93         return nama;
94     }
95
96     /**
97      * @param nama the nama to set
98      */
99     public void setNama(String nama) {
100         this.nama = nama;
101     }
102
103     /**
104      * @return the ipk
105      */
106     public float getIpk() {
107         return ipk;
108     }
109
110     /**
111      * @param ipk the ipk to set
112      */
113     public void setIpk(float ipk) {
114         this.ipk = ipk;
115     }
116
117 }
```

ModelTabelMahasiswa.java:



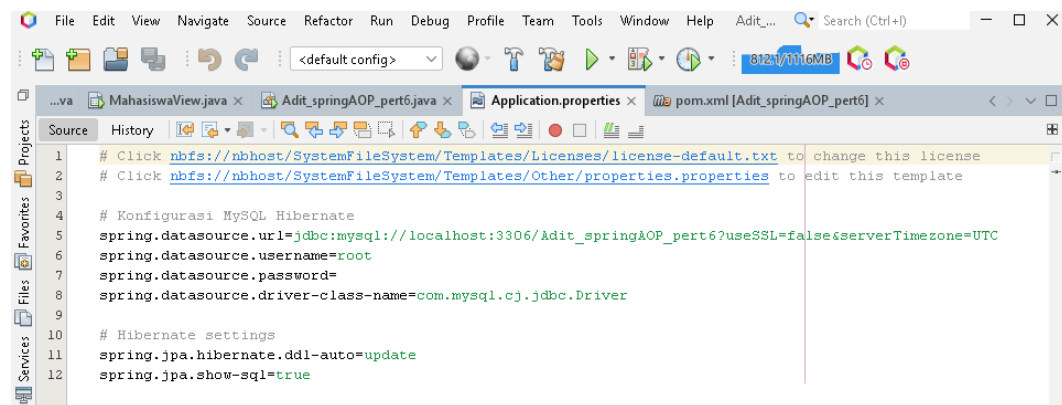
```
1  /*
2  * Click nbfs://nbhost/SystemFileSystem/Templates/Licenses/license-default.txt to change this license
3  * Click nbfs://nbhost/SystemFileSystem/Templates/Classes/Class.java to edit this template
4  */
5  package com.mahasiswa.model;
6
7  import javax.swing.table.AbstractTableModel;
8  import java.util.List;
9
10 /*
11 *
12 * @author aditrhamid
13 */
14 public class ModelTabelMahasiswa extends AbstractTableModel {
15     private List<ModelMahasiswa> mahasiswaList;
16     private final String[] columnNames = {"ID", "NPM", "Nama", "Semester", "IPK"};
17
18     public ModelTabelMahasiswa(List<ModelMahasiswa> mahasiswaList) {
19         this.mahasiswaList = mahasiswaList;
20     }
21
22     @Override
23     public int getRowCount() {
24         return mahasiswaList.size(); // Jumlah baris sesuai dengan jumlah data mahasiswa
25     }
26
27     @Override
28     public int getColumnCount() {
29         return columnNames.length; // Jumlah kolom sesuai dengan jumlah elemen dalam columnNames
30     }
31
32     @Override
33     public Object getValueAt(int rowIndex, int columnIndex) {
34         ModelMahasiswa mahasiswa = mahasiswaList.get(rowIndex);
35         switch (columnIndex) {
36             case 0:
37                 return mahasiswa.getId();
38             case 1:
39                 return mahasiswa.getNpm();
40             case 2:
41                 return mahasiswa.getNama();
42             case 3:
43                 return mahasiswa.getSemester();
44             case 4:
45                 return mahasiswa.getIpk();
46             default:
47                 return null;
48         }
49     }
50
51     @Override
52     public String getColumnName(int column) {
53         return columnNames[column]; // Mengatur nama kolom
54     }
55
56     @Override
57     public boolean isCellEditable(int rowIndex, int columnIndex) {
58         return false; // Semua sel tidak dapat diedit
59     }
60
61     // Method untuk menambahkan atau memodifikasi data, jika dibutuhkan
62     public void setMahasiswaList(List<ModelMahasiswa> mahasiswaList) {
63         this.mahasiswaList = mahasiswaList;
64         fireTableDataChanged(); // Memberitahu JTable bahwa data telah berubah
65     }
66 }
67
```

MahasiswaRepository.java:



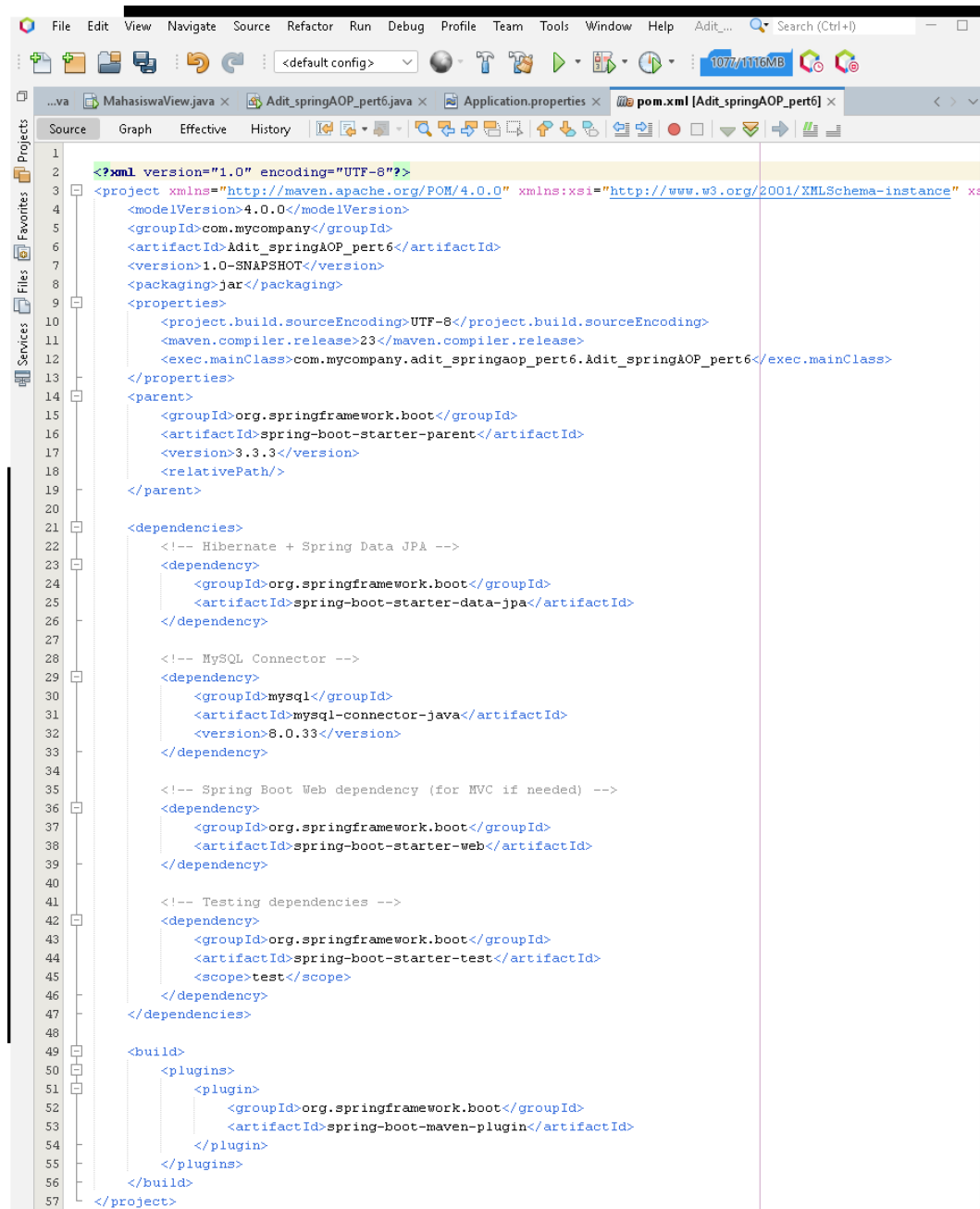
```
1  /**
2   * Click nbfs://nbhost/SystemFileSystem/Templates/Licenses/license-default.txt to change this license
3   * Click nbfs://nbhost/SystemFileSystem/Templates/Classes/Class.java to edit this template
4   */
5   package com.mahasiswa.repository;
6
7   import com.mahasiswa.model.ModelMahasiswa;
8   import org.springframework.data.jpa.repository.JpaRepository;
9   import org.springframework.stereotype.Repository;
10
11  /**
12   *
13   * @author aditrhamid
14   */
15  @Repository
16  public interface MahasiswaRepository extends JpaRepository<ModelMahasiswa, Integer> {
17      public Object findById(int id);
18
19      public void deleteById(int id);
20  }
21
```

Application.properties:



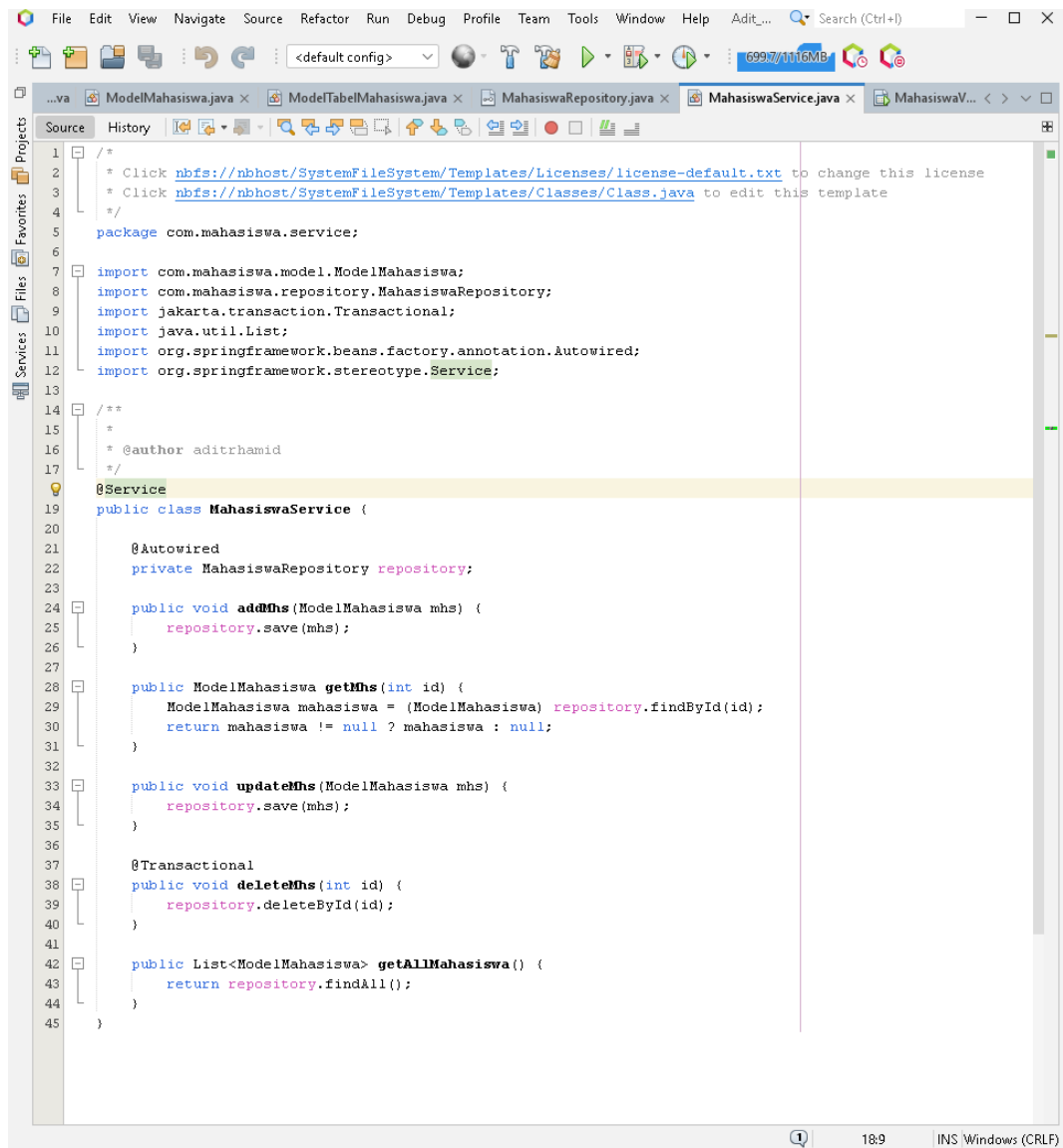
```
1  # Click nbfs://nbhost/SystemFileSystem/Templates/Licenses/license-default.txt to change this license
2  # Click nbfs://nbhost/SystemFileSystem/Templates/Other/properties.properties to edit this template
3
4  # Konfigurasi MySQL Hibernate
5  spring.datasource.url=jdbc:mysql://localhost:3306/Adit_springAOP_pert6?useSSL=false&serverTimezone=UTC
6  spring.datasource.username=root
7  spring.datasource.password=
8  spring.datasource.driver-class-name=com.mysql.cj.jdbc.Driver
9
10 # Hibernate settings
11 spring.jpa.hibernate.ddl-auto=update
12 spring.jpa.show-sql=true
```

pom.xml:



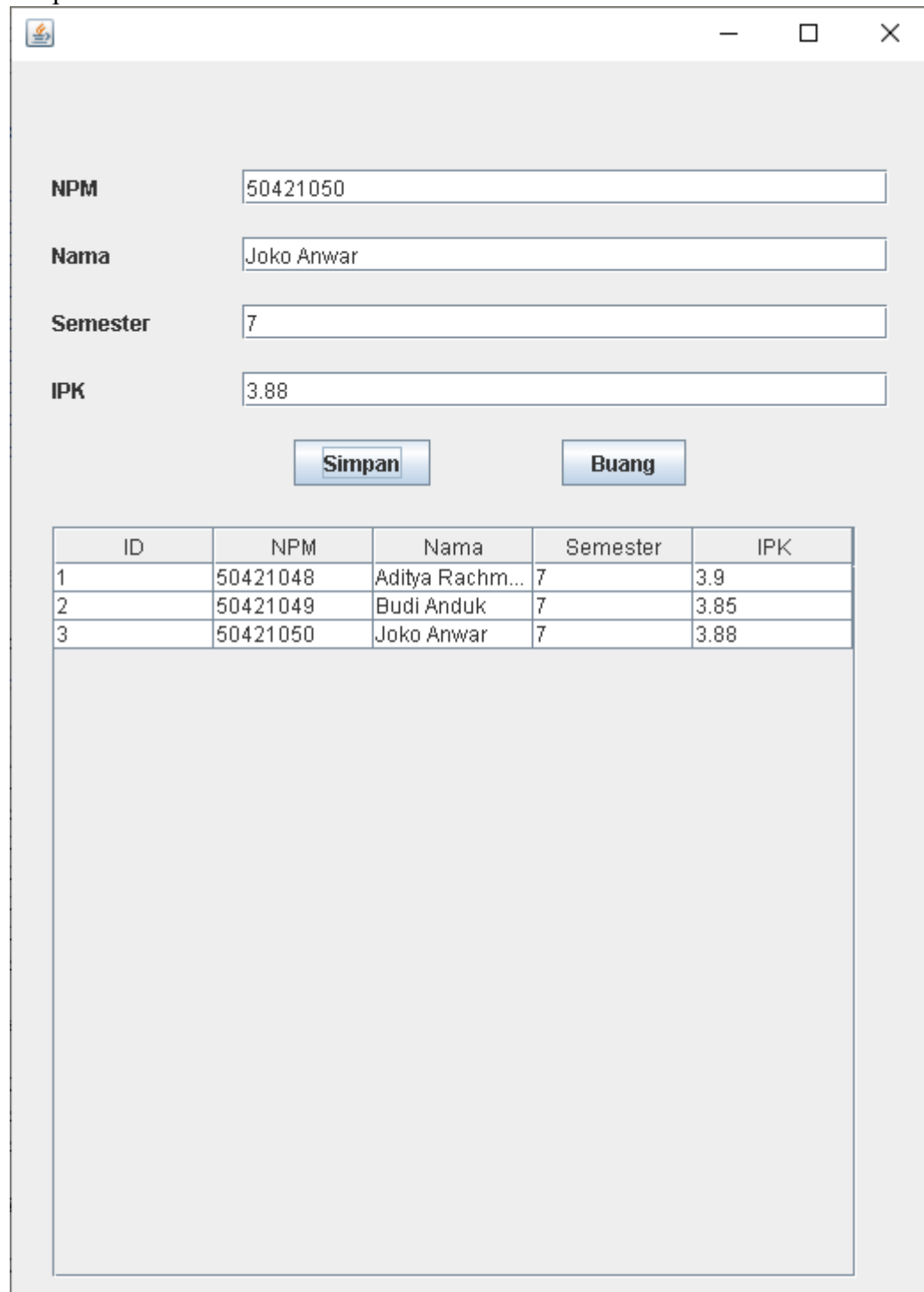
```
1  <?xml version="1.0" encoding="UTF-8"?>
2
3  <project xmlns="http://maven.apache.org/POM/4.0.0" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:schemaLocation="http://maven.apache.org/POM/4.0.0 http://maven.apache.org/xsd/maven-4.0.0.xsd">
4      <modelVersion>4.0.0</modelVersion>
5      <groupId>com.mycompany</groupId>
6      <artifactId>Adit_springAOP_pert6</artifactId>
7      <version>1.0-SNAPSHOT</version>
8      <packaging>jar</packaging>
9      <properties>
10         <project.build.sourceEncoding>UTF-8</project.build.sourceEncoding>
11         <maven.compiler.release>23</maven.compiler.release>
12         <exec.mainClass>com.mycompany.adit_springaop_pert6.Adit_springAOP_pert6</exec.mainClass>
13     </properties>
14     <parent>
15         <groupId>org.springframework.boot</groupId>
16         <artifactId>spring-boot-starter-parent</artifactId>
17         <version>3.3.3</version>
18         <relativePath/>
19     </parent>
20
21     <dependencies>
22         <!-- Hibernate + Spring Data JPA -->
23         <dependency>
24             <groupId>org.springframework.boot</groupId>
25             <artifactId>spring-boot-starter-data-jpa</artifactId>
26         </dependency>
27
28         <!-- MySQL Connector -->
29         <dependency>
30             <groupId>mysql</groupId>
31             <artifactId>mysql-connector-java</artifactId>
32             <version>8.0.33</version>
33         </dependency>
34
35         <!-- Spring Boot Web dependency (for MVC if needed) -->
36         <dependency>
37             <groupId>org.springframework.boot</groupId>
38             <artifactId>spring-boot-starter-web</artifactId>
39         </dependency>
40
41         <!-- Testing dependencies -->
42         <dependency>
43             <groupId>org.springframework.boot</groupId>
44             <artifactId>spring-boot-starter-test</artifactId>
45             <scope>test</scope>
46         </dependency>
47     </dependencies>
48
49     <build>
50         <plugins>
51             <plugin>
52                 <groupId>org.springframework.boot</groupId>
53                 <artifactId>spring-boot-maven-plugin</artifactId>
54             </plugin>
55         </plugins>
56     </build>
57 </project>
```

MahasiswaService.java:



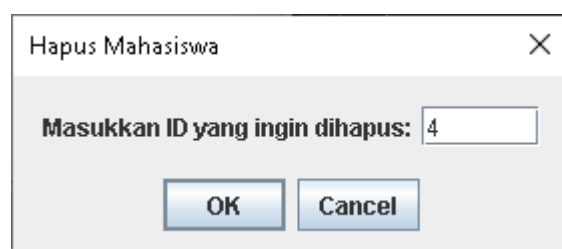
```
1  /*
2  * Click nbfs://nbhost/SystemFileSystem/Templates/Licenses/license-default.txt to change this license
3  * Click nbfs://nbhost/SystemFileSystem/Templates/Classes/Class.java to edit this template
4  */
5  package com.mahasiswa.service;
6
7  import com.mahasiswa.model.ModelMahasiswa;
8  import com.mahasiswa.repository.MahasiswaRepository;
9  import jakarta.transaction.Transactional;
10 import java.util.List;
11 import org.springframework.beans.factory.annotation.Autowired;
12 import org.springframework.stereotype.Service;
13
14 /**
15 *
16 * @author aditrhamid
17 */
18 @Service
19 public class MahasiswaService {
20
21     @Autowired
22     private MahasiswaRepository repository;
23
24     public void addMhs (ModelMahasiswa mhs) {
25         repository.save(mhs);
26     }
27
28     public ModelMahasiswa getMhs (int id) {
29         ModelMahasiswa mahasiswa = (ModelMahasiswa) repository.findById(id);
30         return mahasiswa != null ? mahasiswa : null;
31     }
32
33     public void updateMhs (ModelMahasiswa mhs) {
34         repository.save(mhs);
35     }
36
37     @Transactional
38     public void deleteMhs (int id) {
39         repository.deleteById(id);
40     }
41
42     public List<ModelMahasiswa> getAllMahasiswa () {
43         return repository.findAll();
44     }
45 }
```

Output:




The screenshot shows a window with a title bar containing a small icon and standard Windows window controls (minimize, maximize, close). The main area of the window contains four input fields with labels to their left: 'NPM' with the value '50421050', 'Nama' with the value 'Joko Anwar', 'Semester' with the value '7', and 'IPK' with the value '3.88'. Below these fields are two buttons: 'Simpan' (Save) and 'Buang' (Delete). Underneath the buttons is a table with five columns: 'ID', 'NPM', 'Nama', 'Semester', and 'IPK'. The table contains three rows of data. Below the table is a large, empty rectangular box, likely a placeholder for a list or a message.

ID	NPM	Nama	Semester	IPK
1	50421048	Aditya Rachm...	7	3.9
2	50421049	Budi Anduk	7	3.85
3	50421050	Joko Anwar	7	3.88



The screenshot shows a dialog box titled 'Hapus Mahasiswa' (Delete Student) with a close button (X) in the top right corner. The dialog contains a label 'Masukkan ID yang ingin dihapus:' (Enter the ID you want to delete:) followed by a text input field containing the number '4'. At the bottom of the dialog are two buttons: 'OK' and 'Cancel'.



—

□

×

NPM

50421052

Nama

Ali Anwar

Semester

7

IPK

3.81

Simpan

Buang

ID	NPM	Nama	Semester	IPK
1	50421048	Aditya Rachm...	7	3.9
2	50421049	Budi Anduk	7	3.85
5	50421051	Dude Herlino	7	3.82
6	50421052	Ali Anwar	7	3.81