PORTOFOLIO PROPOSAL
OBJECT ORIENTED PROGRAMMING
TRAIN TICKET BOOKING

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PROGRAM STUDI D – IV TEKNIK INFORMATIKA

JURUSAN TEKNOLOGI INFORMASI

POLITEKNIK NEGERI MALANG 2022

1. **App's Description**

   Train ticket booking application

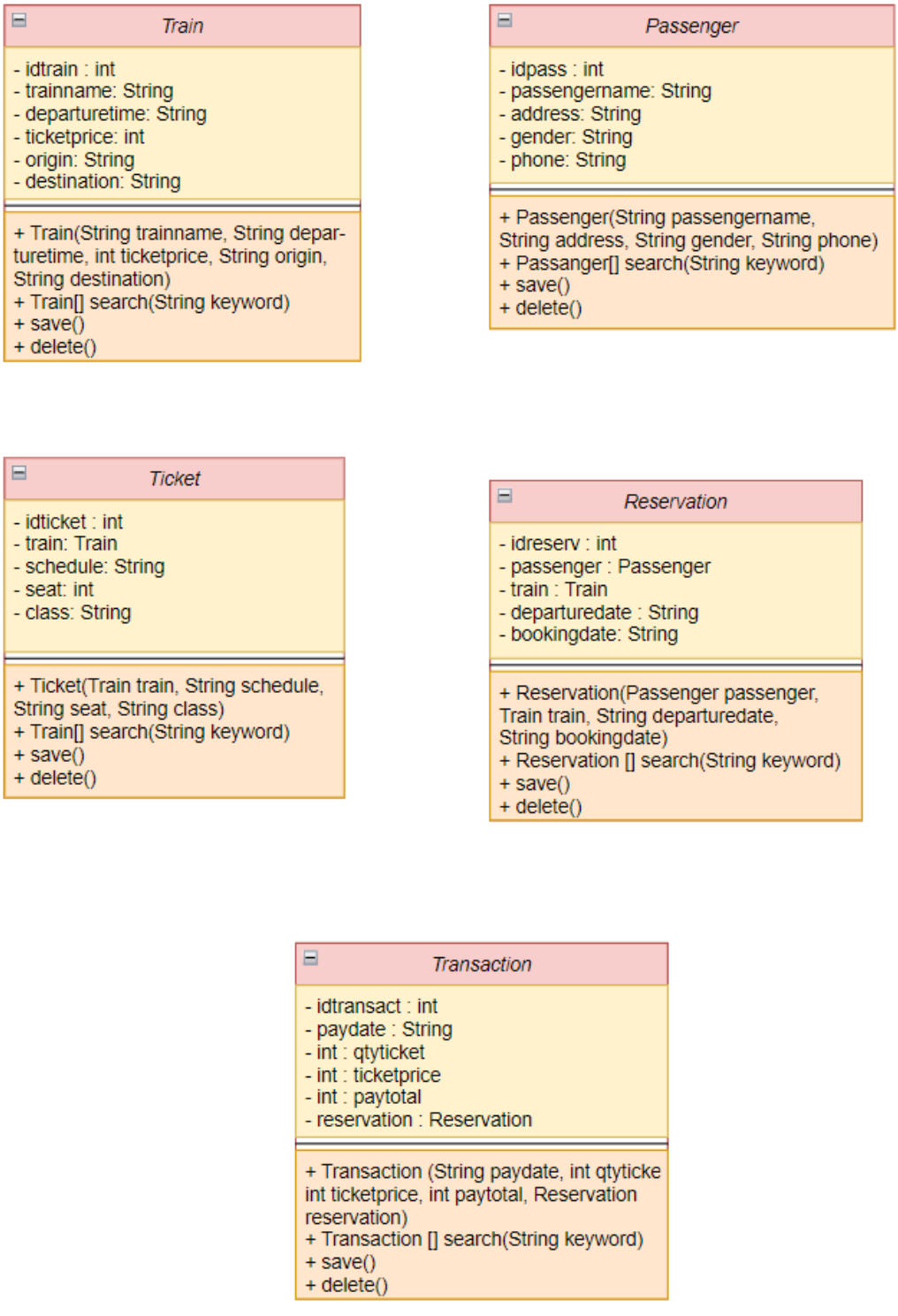
   Descriptuion: Passenger can booking a train ticket, by inputting their data, choose train and schedule, make a reservation, then they can buy ticket, and transaction.

   The data that passenger's input will be appear on the table below.

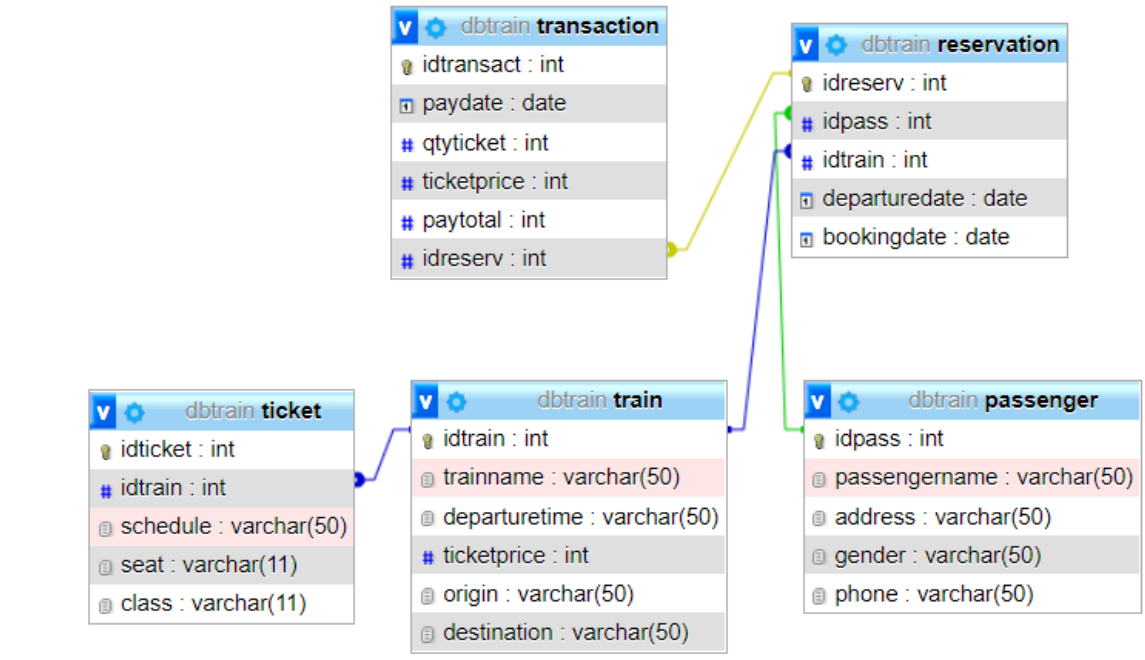
   - Train Details: There are save, add new, delete, search and exit features. So in this form we can add a train by entering the name of the train, departure time, ticket price, station of origin and destination station. After everything has been filled in, you can click the save button on the form and the data will be registered in the column provided.
   - Passenger Details: There are save features, add new, delete, search and delete. So in this form we can add passengers by entering their name, address, gender then telephone number, after all is filled in you can click the save button on the form and your data will be registered in the column provided.
   - Reservation Details: There are save features, add new, delete, search and exit. So in this form we can add a reservation by entering the passenger's name and bus name by selecting existing data, departure date, booking date, after all is filled in you can click the save button on the form and your data will be registered in the column provided.
   - Ticket Details: There are save features, add new, delete, search and exit. So in this form we can add tickets by entering the name of the bus by selecting existing data, schedule, seat number then the class of bus to be boarded, after all is filled in, you can click the save button and your data will be registered in the column that has been provided.
   - Transaction Details: There are save, add new, delete, search, and exit features. So in this form you can add transactions by entering the payment date, number of tickets, ticket price, total payment, and reservation. Select a pre-booked date. Then, clicking the save button on the form and the data will be registered in the column provided.
   - Other features:
     - Search: Type what you want to search for, then click the search button
     - Remove: Click data you want to remove, then click remove
     - Click Logout for Exit

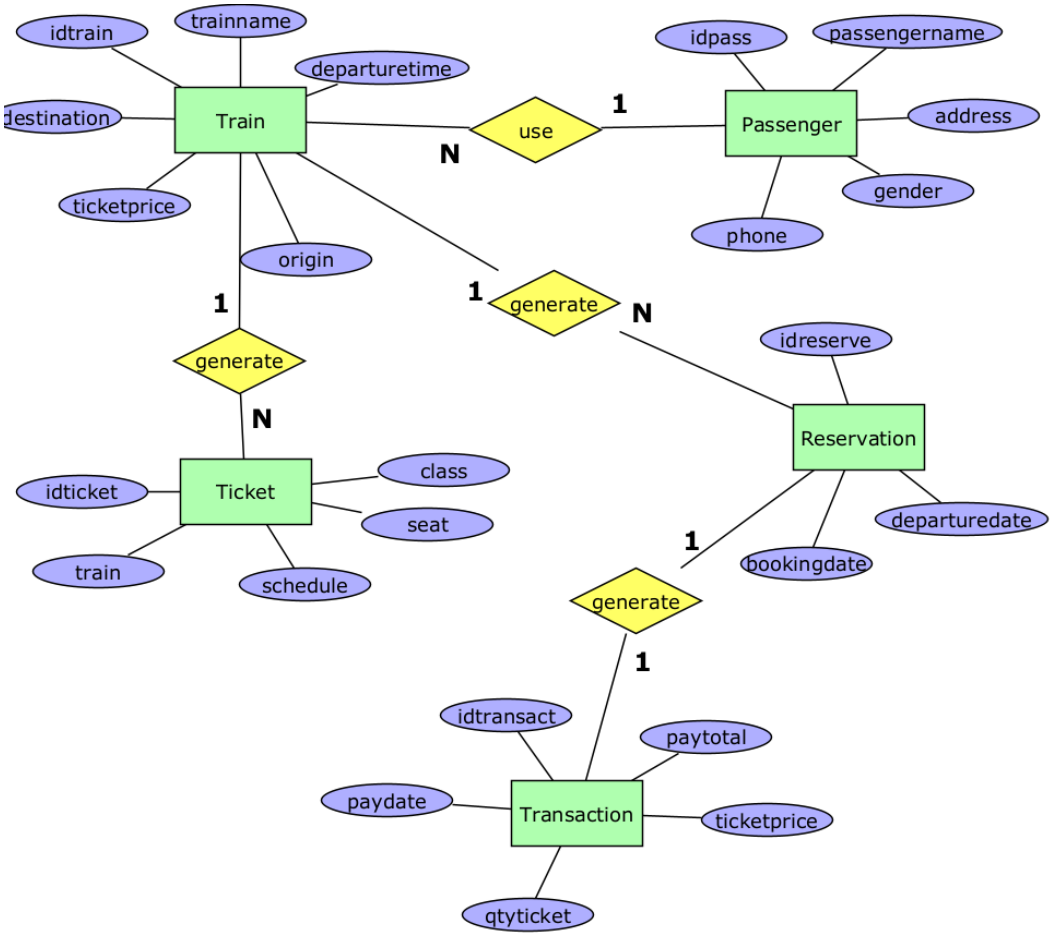
   The Actor: Admin

2. Class Diagram



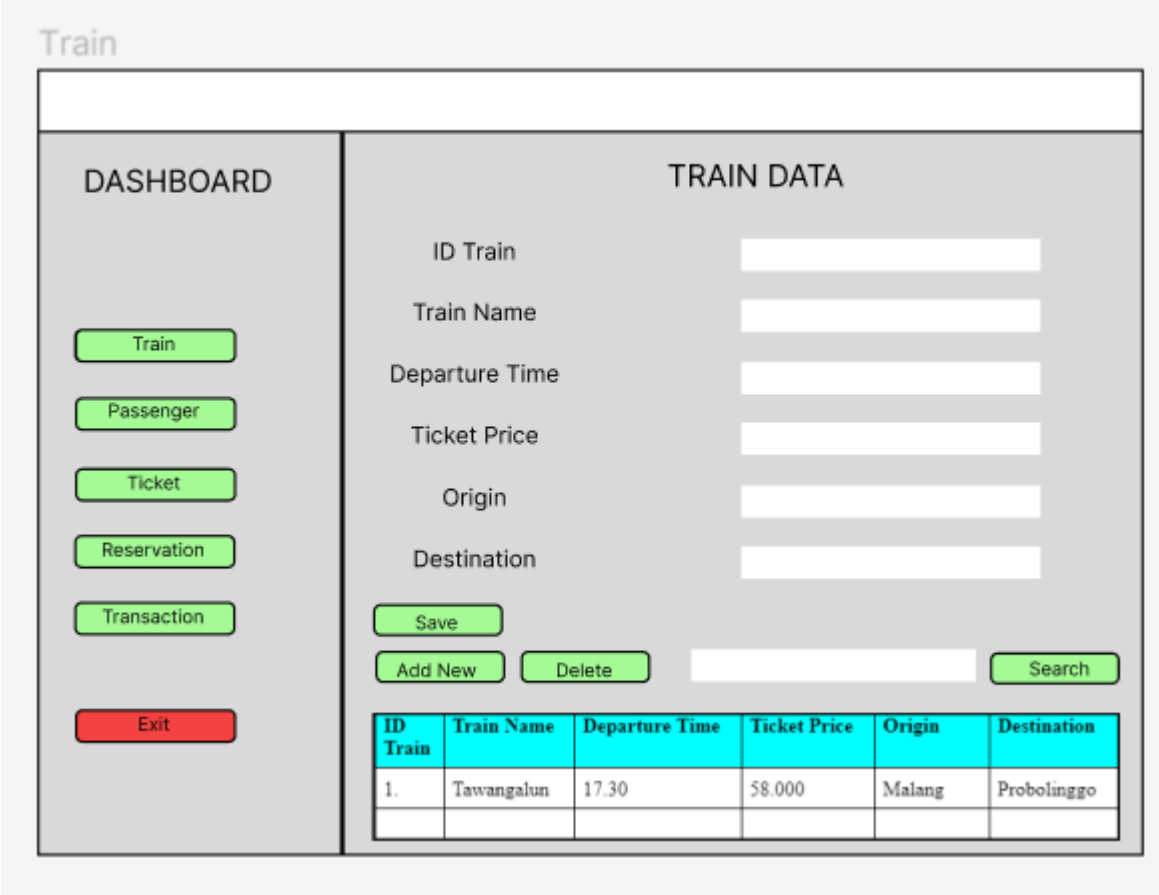
3. ERD


dbtrain transaction
idtransact : int
paydate : date
qtyticket : int
ticketprice : int
paytotal : int
idreserv : int
dbtrain reservation
idreserv : int
idpass : int
idtrain : int
departuredate : date
bookingdate : date
dbtrain ticket
idticket : int
idtrain : int
schedule : varchar(50)
seat : varchar(11)
class : varchar(11)
dbtrain train
idtrain : int
trainname : varchar(50)
departuretime : varchar(50)
ticketprice : int
origin : varchar(50)
destination : varchar(50)
dbtrain passenger
idpass : int
passengername : varchar(50)
address : varchar(50)
gender : varchar(50)
phone : varchar(50)

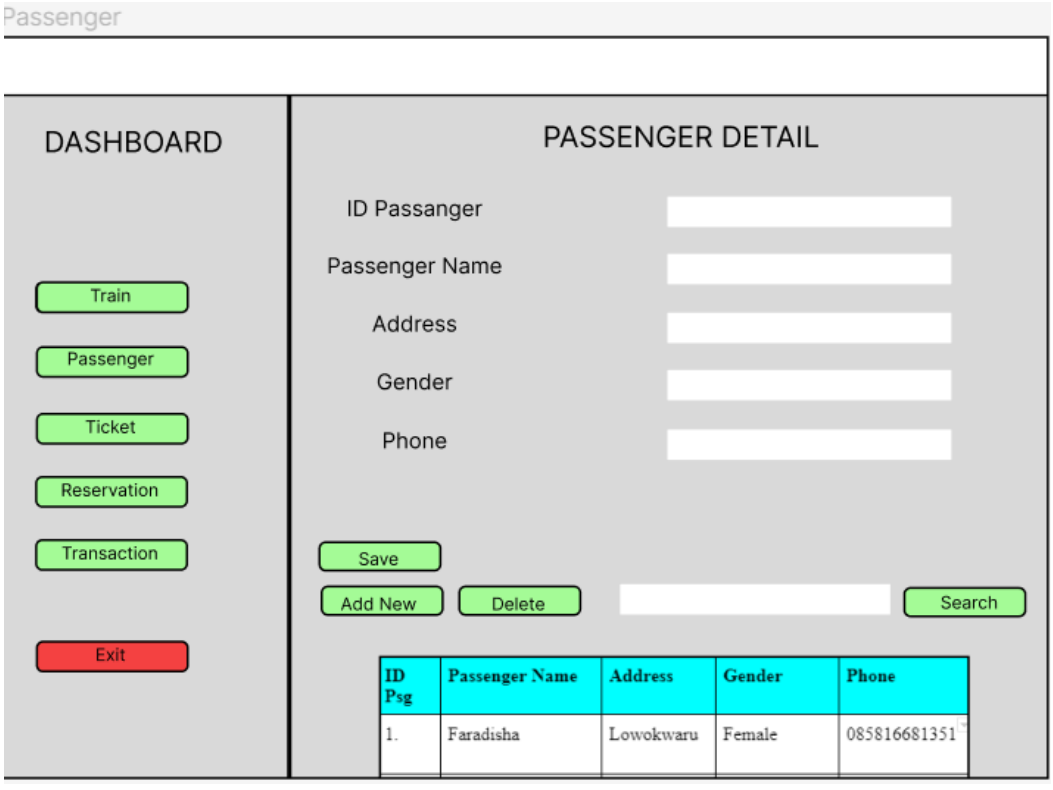

idtrain
trainname
departuretime
destination
Train
ticketprice
origin
use
1
N
idpass
passengername
Passenger
address
gender
phone
1
generate
N
1
generate
N
idreserve
Reservation
departuredate
bookingdate
1
generate
1
idtransact
paytotal
paydate
Transaction
ticketprice
qtyticket
idticket
Ticket
class
seat
train
schedule

4. Mockup

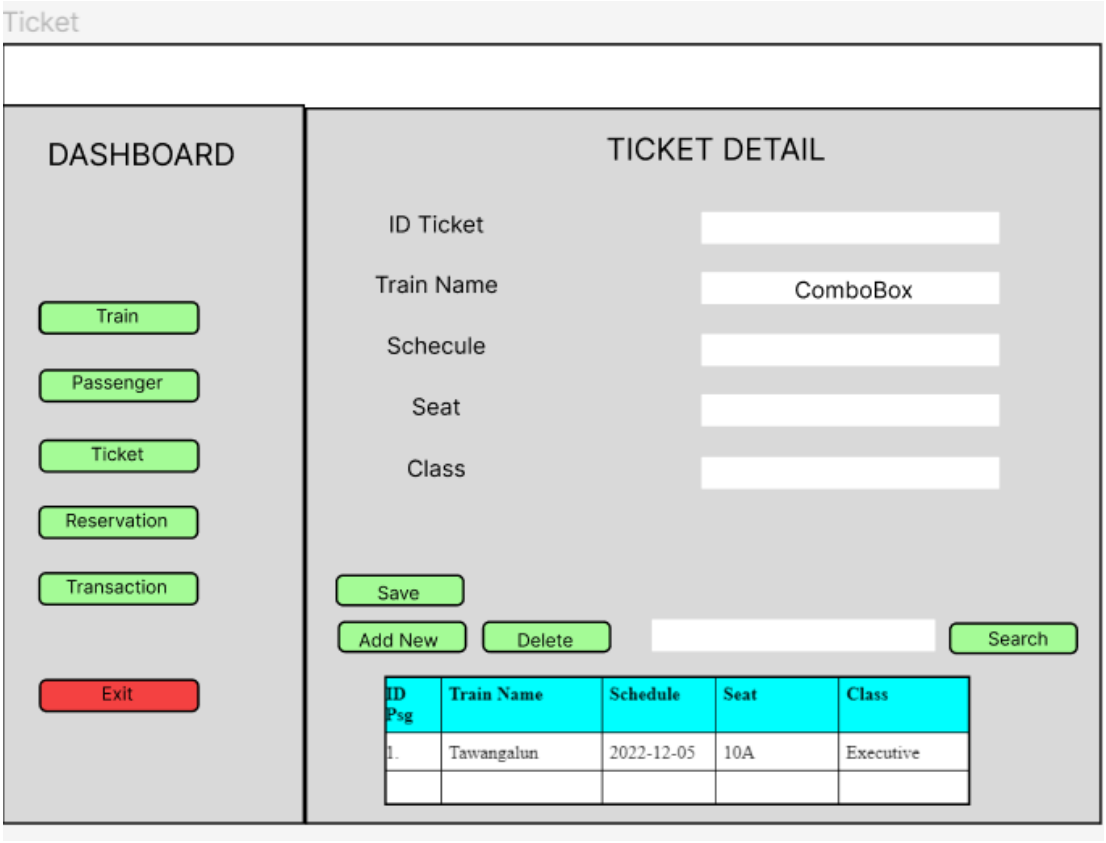
a. Train



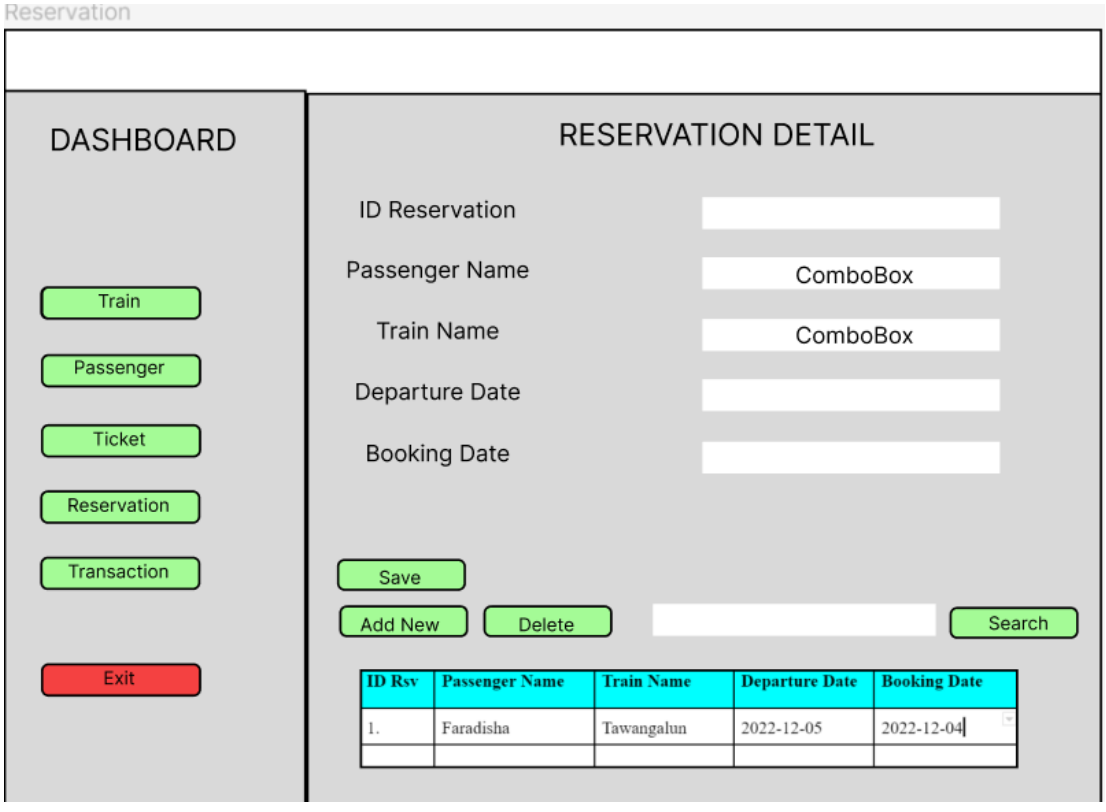
b. Passenger



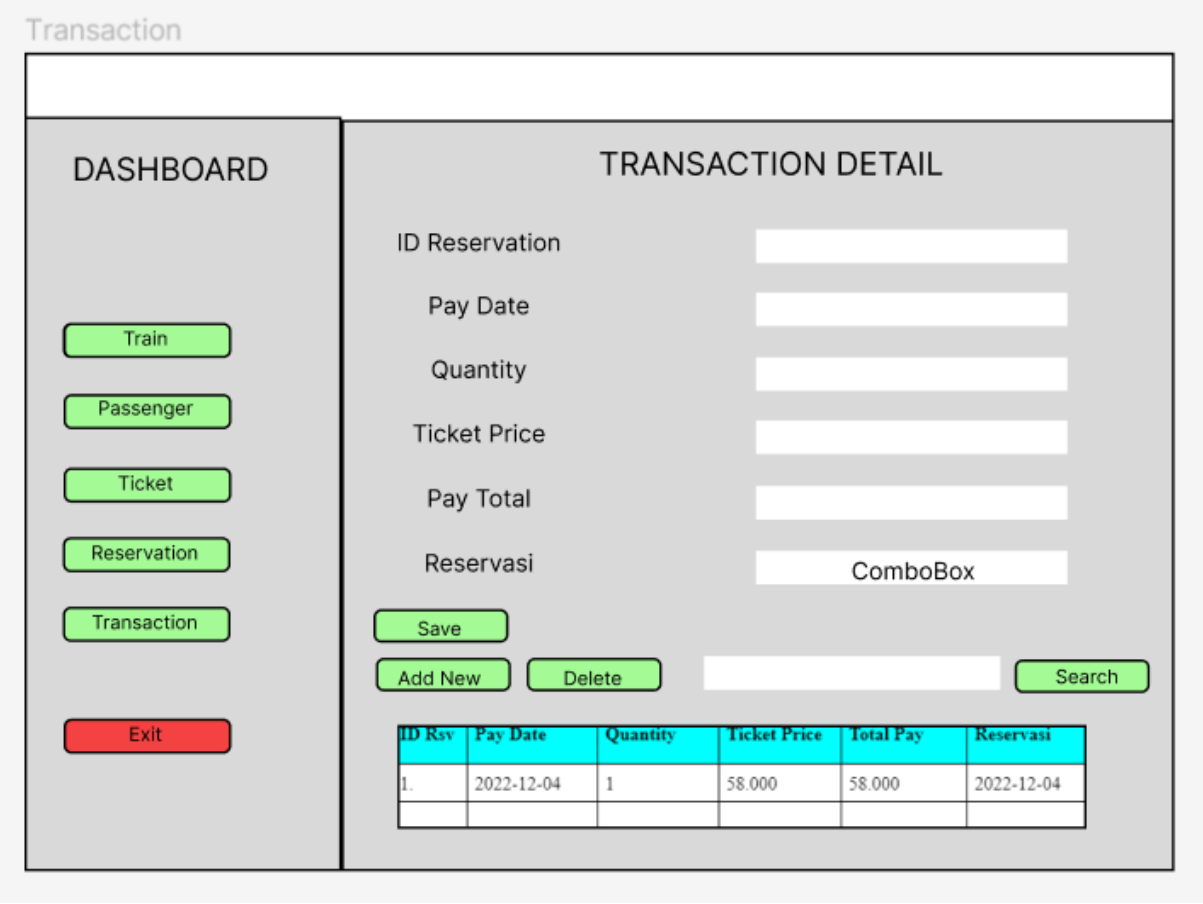
c. Ticket



d. Reservation



e. Transaction



5. Programming Code

1. Class BackEnd

a. DBHelper

```
/*
 * 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 backend;
import java.sql.*;
/**
 *
 * @author faradisha
 */
public class DBHelper {
    private static Connection connection;
    public static void bukaKoneksi(){
        if(connection == null){
            try{
                String url = "jdbc:mysql://localhost:3306/dbtrain";
                String user = "root";
                String password = "";
                DriverManager.registerDriver(new com.mysql.cj.jdbc.Driver());
                connection = DriverManager.getConnection(url, user, password);
            } catch (SQLException t){
                System.out.println("Connection Error!");
            }
        }
    }
    public static int insertQueryGetId(String query) {
        bukaKoneksi();
        int num = 0;
        int result = -1;
        try {
            Statement stmt = connection.createStatement();
            num = stmt.executeUpdate(query,
           Statement.RETURN_GENERATED_KEYS);
            ResultSet rs = stmt.getGeneratedKeys();
                if (rs.next()) {
                result = rs.getInt(1);
                }
            rs.close();
            stmt.close();
        } catch (Exception e) {
            e.printStackTrace();
            result = -1;
        }
```

```
    return result;
        }

    public static boolean executeQuery(String query) {
        bukaKoneksi();
        boolean result = false;
        try {
            Statement stmt = connection.createStatement();
            stmt.executeUpdate(query);
            result = true;
            stmt.close();
        } catch (Exception e) {
            e.printStackTrace();
        }
    return result;
        }

    public static ResultSet selectQuery(String query) {
        bukaKoneksi();
        ResultSet rs = null;
            try {
                Statement stmt = connection.createStatement();
                rs = stmt.executeQuery(query);
            } catch (Exception e) {
                e.printStackTrace();
            }
        return rs;
        }
    public static void main(String[] args) {
        bukaKoneksi();
 }

}
```

b. Class Train

```
/*
 * 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 backend;
import java.util.ArrayList;
import java.sql.*;

/**
 *
```

```
 * @author faradisha
 */
public class Train {
    private int idtrain;
    private String trainname;
    private String departuretime;
    private int ticketprice;
    private String origin;
    private String destination;

    public Train(){
    }

    public Train(String trainname, String departuretime, int ticketprice, String origin, String
destination){
    this.trainname = trainname;
    this.departuretime = departuretime;
    this.ticketprice = ticketprice;
    this.origin = origin;
    this.destination = destination;
    }

    public int getIdtrain() {
        return idtrain;
    }

    public void setIdtrain(int idtrain) {
        this.idtrain = idtrain;
    }

    public String getTrainname() {
        return trainname;
    }

    public void setTrainname(String trainname) {
        this.trainname = trainname;
    }

    public String getDeparturetime() {
        return departuretime;
    }

    public void setDeparturetime(String departuretime) {
        this.departuretime = departuretime;
    }

    public int getTicketprice() {
        return ticketprice;
    }
```

```
    public void setTicketprice(int ticketprice) {
        this.ticketprice = ticketprice;
    }

    public String getOrigin() {
        return origin;
    }

    public void setOrigin(String origin) {
        this.origin = origin;
    }

    public String getDestination() {
        return destination;
    }

    public void setDestination(String destination) {
        this.destination = destination;
    }

    public String toString(){
        return trainname;
    }

    public Train getById(int id){
        Train train = new Train();
        ResultSet rs = DBHelper.selectQuery("SELECT * FROM train " + " WHERE idtrain = '" + id +
"'");
        try {
            while(rs.next()){
                train = new Train();
                train.setIdtrain(rs.getInt("idtrain"));
                train.setTrainname(rs.getString("trainname"));
                train.setDeparturetime(rs.getString("departuretime"));
                train.setTicketprice(rs.getInt("ticketprice"));
                train.setOrigin(rs.getString("origin"));
                train.setDestination(rs.getString("destination"));
            }
        } catch (Exception e){
            e.printStackTrace();
        }
        return train;
    }

    public ArrayList<Train> getAll(){
        ArrayList<Train> ListKategori = new ArrayList();
        ResultSet rs = DBHelper.selectQuery("SELECT * FROM train");
        try {
```

```
        while(rs.next()){
            Train train = new Train();
            train.setIdtrain(rs.getInt("idtrain"));
            train.setTrainname(rs.getString("trainname"));
            train.setDeparturetime(rs.getString("departuretime"));
            train.setTicketprice(rs.getInt("ticketprice"));
            train.setOrigin(rs.getString("origin"));
            train.setDestination(rs.getString("destination"));
            ListKategori.add(train);
        }
    } catch (Exception e){
        e.printStackTrace();
    }
    return ListKategori;
}
public ArrayList<Train> search(String keyword) {
    ArrayList<Train> ListKategori = new ArrayList();

    String sql = "SELECT * FROM train WHERE "
    + " trainname LIKE '%" + keyword + "%' "
    + " OR departuretime LIKE '%" + keyword +
   "%' "
    + " OR idtrain LIKE '%" + keyword + "%' "
    + " OR ticketprice LIKE '%" + keyword +
   "%' "
    + " OR origin LIKE '%" + keyword +
   "%' "
    + " OR destination LIKE '%" + keyword
   + "%' ";

    ResultSet rs = DBHelper.selectQuery(sql);

    try {
    while(rs.next()) {
        Train train = new Train();
            train.setIdtrain(rs.getInt("idtrain"));
            train.setTrainname(rs.getString("trainname"));
            train.setDeparturetime(rs.getString("departuretime"));
            train.setTicketprice(rs.getInt("ticketprice"));
            train.setOrigin(rs.getString("origin"));
            train.setDestination(rs.getString("destination"));
            ListKategori.add(train);
        }
    } catch (Exception e) {
        e.printStackTrace();
    }
   return ListKategori;
    }
public void save(){
```

```
      if(getById(idtrain).getIdtrain()==0){
         String SQL = "INSERT INTO train (trainname, departuretime, ticketprice, origin, destination)
"
                 + "VALUES ("
                 + " '" + this.trainname + "', "
                 + " '" + this.departuretime + "', "
                 + " '" + this.ticketprice + "', "
                 + " '" + this.origin + "', "
                 + " '" + this.destination + "' "
                 + " )";
                 this.idtrain = DBHelper.insertQueryGetId(SQL);

      } else {
         String SQL = "UPDATE train SET "
         + " trainname = '" + this.trainname +"',"
         + " departuretime = '" + this.departuretime +"', "
         + " ticketprice = '" + this.ticketprice + "', "
         + " origin = '" + this.origin +"', "
         + " destination = '" + this.destination + "' "
         + " WHERE idtrain = '" + this.idtrain + "'";
         DBHelper.executeQuery(SQL);
      }
   }

   public void delete() {
      String SQL = "DELETE FROM train WHERE idtrain = '" +
      this.idtrain + "'";
      DBHelper.executeQuery(SQL);
 }

}
```

c. Class Passenger

```
/*
 * 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 backend;
import java.util.ArrayList;
import java.sql.*;
/**
 *
 * @author faradisha
 */
```

```
public class Passenger {
    private int idpassenger;
    private String passengername;
    private String address;
    private String gender;
    private String phone;

    public Passenger(){}
    public Passenger(String passengername, String address, String gender, String phone){
        this.passengername = passengername;
        this.address = address;
        this.gender = gender;
        this.phone = phone;
    }

    public int getIdpassenger() {
        return idpassenger;
    }

    public void setIdpassenger(int idpassenger) {
        this.idpassenger = idpassenger;
    }

    public String getPassengername() {
        return passengername;
    }

    public void setPassengername(String passengername) {
        this.passengername = passengername;
    }

    public String getAddress() {
        return address;
    }

    public void setAddress(String address) {
        this.address = address;
    }

    public String getGender() {
        return gender;
    }

    public void setGender(String gender) {
        this.gender = gender;
    }

    public String getPhone() {
        return phone;
```

```
    }

    public void setPhone(String phone) {
        this.phone = phone;
    }
    public String toString(){
        return passengername;
    }

    public Passenger getById(int id){
        Passenger passenger = new Passenger();
        ResultSet rs = DBHelper.selectQuery("SELECT * FROM passenger " + " WHERE idpassenger =
'" + id + "'");
        try{
            while(rs.next()){
                passenger = new Passenger();
                passenger.setIdpassenger(rs.getInt("idpassenger"));
                passenger.setPassengername(rs.getString("passengername"));
                passenger.setAddress(rs.getString("address"));
                passenger.setGender(rs.getString("gender"));
                passenger.setPhone(rs.getString("phone"));

            }
        } catch (Exception e) {
            e.printStackTrace();
        }
        return passenger;
    }

     public ArrayList<Passenger> getAll() {
        ArrayList<Passenger> ListKategori = new ArrayList();

        ResultSet rs = DBHelper.selectQuery("SELECT * FROM passenger");
        try{
            while(rs.next()){
                Passenger passenger = new Passenger();
                passenger.setIdpassenger(rs.getInt("idpassenger"));
                passenger.setPassengername(rs.getString("passengername"));
                passenger.setAddress(rs.getString("address"));
                passenger.setGender(rs.getString("gender"));
                passenger.setPhone(rs.getString("phone"));
                ListKategori.add(passenger);

            }
        } catch (Exception e) {
            e.printStackTrace();
        }
        return ListKategori;
    }
```

```
public ArrayList<Passenger> search(String keyword) {
    ArrayList<Passenger> ListKategori = new ArrayList();

    String sql = "SELECT * FROM passenger WHERE "
            + "     idpassenger LIKE '%" + keyword + "%' "
            + "     OR passengername LIKE '%" + keyword + "%' "
            + "     OR address LIKE '%" + keyword + "%' "
            + "     OR gender LIKE '%" + keyword + "%' "
            + "     OR phone LIKE '%" + keyword + "%' ";

    ResultSet rs = DBHelper.selectQuery(sql);
    try{
        while(rs.next()){
            Passenger passenger = new Passenger();
            passenger.setIdpassenger(rs.getInt("idpassenger"));
            passenger.setPassengername(rs.getString("passengername"));
            passenger.setAddress(rs.getString("address"));
            passenger.setGender(rs.getString("gender"));
            passenger.setPhone(rs.getString("phone"));
            ListKategori.add(passenger);

        }
    } catch (Exception e) {
        e.printStackTrace();
    }
    return ListKategori;
}

public void save(){
    if(getById(idpassenger).getIdpassenger()==0){
        String SQL = "INSERT INTO passenger (passengername, address, gender, phone) VALUES("
                + "     '" + this.passengername + "', "
                + "     '" + this.address + "', "
                + "     '" + this.gender + "', "
                + "     '" + this.phone + "' "
                + "     )";
        this.idpassenger = DBHelper.insertQueryGetId(SQL);
    } else {
        String SQL = "UPDATE passenger SET "
                + "     namapenumpang = '" + this.passengername +"', "
                + "     alamat = '" + this.address + "', "
                + "     gender = '" + this.gender +"', "
                + "     notelepon = '" + this.phone + "' "
                + "     WHERE idpenumpang = '" + this.idpassenger + "'";
        DBHelper.executeQuery(SQL);
    }
}
```

```
  public void delete() {
     String SQL = "DELETE FROM passenger WHERE idpassenger = '" + this.idpassenger + "'";
     DBHelper.executeQuery(SQL);
  }
     }
```

d. Class Ticket

```
/*
 * 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 backend;
import java.util.ArrayList;
import java.sql.*;
/**
 *
 * @author faradisha
 */
public class Ticket {
    private int idticket;
    private Train train = new Train();
    private String schedule;
    private String seat;
    private String classs;

    public int getIdticket() {
        return idticket;
    }

    public void setIdticket(int idticket) {
        this.idticket = idticket;
    }

    public Train getTrain() {
        return train;
    }

    public void setTrain(Train train) {
        this.train = train;
    }

    public String getSchedule() {
        return schedule;
    }

    public void setSchedule(String schedule) {
        this.schedule = schedule;
    }
```

```
public String getSeat() {
   return seat;
}

public void setSeat(String seat) {
   this.seat = seat;
}

public String getClasss() {
   return classs;
}

public void setClasss(String classs) {
   this.classs = classs;
}
public Ticket(){}
public Ticket(Train train, String schedule, String seat, String classs){
   this.train=train;
   this.schedule=schedule;
   this.seat=seat;
   this.classs=classs;
}
public Ticket getById(int id){
   Ticket ticket = new Ticket();
   ResultSet rs = DBHelper.selectQuery("SELECT"
                        + " t2.idticket AS idticket, "
                          + " t2.schedule AS schedule, "
                          + " t2.seat AS seat, "
                          + " t2.classs AS classs, "
                          + " t.idtrain AS idtrain, "
                          + " t.trainname AS trainname, "
                          + " t.departuretime AS departuretime, "
                          + " t.ticketprice AS ticketprice, "
                          + " t.origin AS origin, "
                          + " t.destination AS destination "
                          + " FROM ticket t2 "
                          + " LEFT JOIN train t ON t2.idtrain = t.idtrain "
                          + " WHERE t2.idticket = '" + id + "' " );
   try{
      while(rs.next()){
         ticket = new Ticket();
         ticket.setIdticket(rs.getInt("idticket"));
         ticket.getTrain().setIdtrain(rs.getInt("idtrain"));
         ticket.getTrain().setTrainname(rs.getString("trainname"));
         ticket.getTrain().setDeparturetime(rs.getString("departuretime"));
         ticket.getTrain().setTicketprice(rs.getInt("ticketprice"));
         ticket.getTrain().setOrigin(rs.getString("origin"));
         ticket.getTrain().setDestination(rs.getString("destination"));
```

```
            ticket.setSchedule(rs.getString("schedule"));
            ticket.setSeat(rs.getString("seat"));
            ticket.setClasss(rs.getString("classs"));
        }
    } catch (Exception e){
        e.printStackTrace();
    }
return ticket;
}

public ArrayList<Ticket> getAll(){
    ArrayList<Ticket> ListTicket = new ArrayList();
    ResultSet rs = DBHelper.selectQuery("SELECT"
                        + " t2.idticket AS idticket, "
                          + " t2.schedule AS schedule, "
                          + " t2.seat AS seat, "
                          + " t2.classs AS classs, "
                          + " t.idtrain AS idtrain, "
                          + " t.trainname AS trainname, "
                          + " t.departuretime AS departuretime, "
                          + " t.ticketprice AS ticketprice, "
                          + " t.origin AS origin, "
                          + " t.destination AS destination "
                          + " FROM ticket t2 "
                          + " LEFT JOIN train t ON t2.idtrain = t.idtrain ");

    try{
        while(rs.next()){
            Ticket ticket = new Ticket();
            ticket.setIdticket(rs.getInt("idticket"));
            ticket.getTrain().setIdtrain(rs.getInt("idtrain"));
            ticket.getTrain().setTrainname(rs.getString("trainname"));
            ticket.getTrain().setDeparturetime(rs.getString("departuretime"));
            ticket.getTrain().setTicketprice(rs.getInt("ticketprice"));
            ticket.getTrain().setOrigin(rs.getString("origin"));
            ticket.getTrain().setDestination(rs.getString("destination"));
            ticket.setSchedule(rs.getString("schedule"));
            ticket.setSeat(rs.getString("seat"));
            ticket.setClasss(rs.getString("classs"));
            ListTicket.add(ticket);
        }
    } catch (Exception e){
        e.printStackTrace();
    }
return ListTicket;
}
public ArrayList<Ticket> search(String keyword){
    ArrayList<Ticket> ListTicket = new ArrayList();
```

```
    ResultSet rs = DBHelper.selectQuery("SELECT"
                        + " t2.idticket AS idticket, "
                           + " t2.schedule AS schedule, "
                           + " t2.seat AS seat, "
                           + " t2.classs AS classs, "
                           + " t.idtrain AS idtrain, "
                           + " t.trainname AS trainname, "
                           + " t.departuretime AS departuretime, "
                           + " t.ticketprice AS ticketprice, "
                           + " t.origin AS origin, "
                           + " t.destination AS destination "
                           + " FROM ticket t2 "
                           + " LEFT JOIN train t ON t2.idtrain = t.idtrain "
                           + " WHERE t2.schedule LIKE '%" + keyword + "%' "
                           + " OR t2.idticket LIKE '%" + keyword + "%' "
                           + " OR t2.seat LIKE '%" + keyword + "%' "
                           + " OR t2.classs LIKE '%" + keyword + "%' "
                           + " OR t.trainname LIKE '%" + keyword + "%' "
                           + " OR t.departuretime LIKE '%" + keyword + "%' ");

    try{
       while(rs.next()){
          Ticket ticket = new Ticket();
          ticket.setIdticket(rs.getInt("idticket"));
          ticket.getTrain().setIdtrain(rs.getInt("idtrain"));
          ticket.getTrain().setTrainname(rs.getString("trainname"));
          ticket.getTrain().setDeparturetime(rs.getString("departuretime"));
          ticket.getTrain().setTicketprice(rs.getInt("ticketprice"));
          ticket.getTrain().setOrigin(rs.getString("origin"));
          ticket.getTrain().setDestination(rs.getString("destination"));
          ticket.setSchedule(rs.getString("schedule"));
          ticket.setSeat(rs.getString("seat"));
          ticket.setClasss(rs.getString("classs"));
          ListTicket.add(ticket);
       }
    } catch (Exception e){
       e.printStackTrace();
    }
return ListTicket;
}

public void save(){
    if(getById(idticket).getIdticket()==0){
       String SQL = "INSERT INTO ticket (idtrain, schedule, seat, classs) VALUES("
       + " '" + this.getTrain().getIdtrain() + "', "
          + " '" + this.schedule + "', "
          + " '" + this.seat + "', "
          + " '" + this.classs + "' "
          + " )";
```

```
            this.idticket = DBHelper.insertQueryGetId(SQL);
        } else {
            String SQL = "UPDATE ticket SET "
                + " idtrain = '" + this.getTrain().getIdtrain() + "', "
                + " schedule = '" + this.schedule + "', "
                + " seat = '" + this.seat + "', "
                + " classs = '" + this.classs + "' "
                + " WHERE idticket = '" + this.idticket + "'";
            DBHelper.executeQuery(SQL);
        }
    }
    public void delete(){
        String SQL = "DELETE FROM ticket WHERE idticket '" + this.idticket + "'";
        DBHelper.executeQuery(SQL);
    }
}
```

e. Reservation

```
/*
 * 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 backend;
import java.util.ArrayList;
import java.sql.*;
/**
 *
 * @author faradisha
 */
public class Reservation {
    private int idreservation;
    private Passenger passenger = new Passenger();
    private Train train = new Train();
    private String departuredate;
    private String bookingdate;

    public int getIdreservation() {
        return idreservation;
    }

    public void setIdreservation(int idreservation) {
        this.idreservation = idreservation;
    }

    public Passenger getPassenger() {
        return passenger;
```

```
}

public void setPassenger(Passenger passenger) {
   this.passenger = passenger;
}

public Train getTrain() {
   return train;
}

public void setTrain(Train train) {
   this.train = train;
}

public String getDepartureDate() {
   return departuredate;
}

public void setDepartureDate(String departuredate) {
   this.departuredate = departuredate;
}

public String getBookingdate() {
   return bookingdate;
}

public void setBookingdate(String bookingdate) {
   this.bookingdate = bookingdate;
}

public String toString(){
   return bookingdate;
}

public Reservation(){}

public Reservation(Passenger passenger, Train train, String departuredate, String bookingdate){
   this.passenger=passenger;
   this.train=train;
   this.departuredate=departuredate;
   this.bookingdate=bookingdate;
}

public Reservation getById(int id){
   Reservation reservation = new Reservation();
   ResultSet rs = DBHelper.selectQuery("SELECT"
                  + "    r.idreservation AS idreservation, "
                  + "    r.departuredate AS departuredate, "
                  + "    r.bookingdate AS bookingdate, "
```

```
                + "    p.idpassenger AS idpassenger, "
                + "    p.passengername AS passengername, "
                + "    p.address AS address, "
                + "    p.gender AS gender, "
                + "    p.phone AS phone, "
                + "    t.idtrain AS idtrain, "
                + "    t.trainname AS trainname, "
                + "    t.departuretime AS departuretime, "
                + "    t.ticketprice AS ticketprice, "
                + "    t.origin AS origin, "
                + "    t.destination AS destination "
                + "    FROM reservation r "
                + "    INNER JOIN passenger p "
                + "    ON p.idpassenger = r.idpassenger "
                + "    INNER JOIN train t "
                + "    ON t.idtrain = r.idtrain "
                + "    WHERE idreservation = '" + id +"'");

    try {
       while(rs.next()){
          reservation = new Reservation();
          reservation.setIdreservation(rs.getInt("idreservation"));
          reservation.getPassenger().setIdpassenger(rs.getInt("idpassenger"));
          reservation.getPassenger().setPassengername(rs.getString("passengername"));
          reservation.getPassenger().setAddress(rs.getString("address"));
          reservation.getPassenger().setGender(rs.getString("gender"));
          reservation.getPassenger().setPhone(rs.getString("phone"));
          reservation.getTrain().setIdtrain(rs.getInt("idtrain"));
          reservation.getTrain().setTrainname(rs.getString("trainname"));
          reservation.getTrain().setDeparturetime(rs.getString("departuretime"));
          reservation.getTrain().setTicketprice(rs.getInt("ticketprice"));
          reservation.getTrain().setOrigin(rs.getString("origin"));
          reservation.getTrain().setDestination(rs.getString("destination"));
          reservation.setDeparturedate(rs.getString("departuredate"));
          reservation.setBookingdate(rs.getString("bookingdate"));
       }
    } catch (Exception e){
       e.printStackTrace();
    }

    return reservation;
}

public ArrayList<Reservation> getAll(){
    ArrayList<Reservation> ListReservation = new ArrayList();
    ResultSet rs = DBHelper.selectQuery("SELECT"
                + "    r.idreservation AS idreservation, "
                + "    r.departuredate AS departuredate, "
                + "    r.bookingdate AS bookingdate, "
```

```
                + "    p.idpassenger AS idpassenger, "
                + "    p.passengername AS passengername, "
                + "    p.address AS address, "
                + "    p.gender AS gender, "
                + "    p.phone AS phone, "
                + "    t.idtrain AS idtrain, "
                + "    t.trainname AS trainname, "
                + "    t.departuretime AS departuretime, "
                + "    t.ticketprice AS ticketprice, "
                + "    t.origin AS origin, "
                + "    t.destination AS destination "
                + "    FROM reservation r "
                + "    INNER JOIN passenger p "
                + "    ON p.idpassenger = r.idpassenger "
                + "    INNER JOIN train t "
                + "    ON t.idtrain = r.idtrain ");

    try {
       while(rs.next()){
          Reservation reservation = new Reservation();
          reservation.setIdreservation(rs.getInt("idreservation"));
          reservation.getPassenger().setIdpassenger(rs.getInt("idpassenger"));
          reservation.getPassenger().setPassengername(rs.getString("passengername"));
          reservation.getPassenger().setAddress(rs.getString("address"));
          reservation.getPassenger().setGender(rs.getString("gender"));
          reservation.getPassenger().setPhone(rs.getString("phone"));
          reservation.getTrain().setIdtrain(rs.getInt("idtrain"));
          reservation.getTrain().setTrainname(rs.getString("trainname"));
          reservation.getTrain().setDeparturetime(rs.getString("departuretime"));
          reservation.getTrain().setTicketprice(rs.getInt("ticketprice"));
          reservation.getTrain().setOrigin(rs.getString("origin"));
          reservation.getTrain().setDestination(rs.getString("destination"));
          reservation.setDepartureDate(rs.getString("departuredate"));
          reservation.setBookingdate(rs.getString("bookingdate"));
          ListReservation.add(reservation);
       }
    } catch (Exception e){
       e.printStackTrace();
    }

    return ListReservation;
}

public ArrayList<Reservation> search(String keyword){
    ArrayList<Reservation> ListReservation = new ArrayList();
    ResultSet rs = DBHelper.selectQuery("SELECT"
                + "    r.idreservation AS idreservation, "
                + "    r.departuredate AS departuredate, "
                + "    r.bookingdate AS bookingdate, "
```

```
                + "    p.idpassenger AS idpassenger, "
                + "    p.passengername AS passengername, "
                + "    p.address AS address, "
                + "    p.gender AS gender, "
                + "    p.phone AS phone, "
                + "    t.idtrain AS idtrain, "
                + "    t.trainname AS trainname, "
                + "    t.departuretime AS departuretime, "
                + "    t.ticketprice AS ticketprice, "
                + "    t.origin AS origin, "
                + "    t.destination AS destination "
                + "    FROM reservation r "
                + "    INNER JOIN passenger p "
                + "    ON p.idpassenger = r.idpassenger "
                + "    INNER JOIN train t "
                + "    ON t.idtrain = r.idtrain "
                + "    WHERE r.departuredate LIKE '%" + keyword + "%' "
                + "    OR r.idreservation LIKE '%" + keyword + "%' "
                + "    OR r.bookingdate LIKE '%" + keyword + "%' "
                + "    OR p.passengername LIKE '%" + keyword + "%' "
                + "    OR t.trainname LIKE '%" + keyword + "%' ");

    try {
      while(rs.next()){
        Reservation reservation = new Reservation();
        reservation.setIdreservation(rs.getInt("idreservation"));
        reservation.getPassenger().setIdpassenger(rs.getInt("idpassenger"));
        reservation.getPassenger().setPassengername(rs.getString("passengername"));
        reservation.getPassenger().setAddress(rs.getString("address"));
        reservation.getPassenger().setGender(rs.getString("gender"));
        reservation.getPassenger().setPhone(rs.getString("phone"));
        reservation.getTrain().setIdtrain(rs.getInt("idtrain"));
        reservation.getTrain().setTrainname(rs.getString("trainname"));
        reservation.getTrain().setDeparturetime(rs.getString("departuretime"));
        reservation.getTrain().setTicketprice(rs.getInt("ticketprice"));
        reservation.getTrain().setOrigin(rs.getString("origin"));
        reservation.getTrain().setDestination(rs.getString("destination"));
        reservation.setDeparturedate(rs.getString("departuredate"));
        reservation.setBookingdate(rs.getString("bookingdate"));
        ListReservation.add(reservation);
      }
    } catch (Exception e){
      e.printStackTrace();
    }

    return ListReservation;
}

public void save(){
```

```
        if(getById(idreservation).getIdreservation()==0){
            String SQL = "INSERT INTO reservation (idpassenger, idtrain, departuredate, bookingdate)
VALUES ("
                    +"      '" + this.getPassenger().getIdpassenger() + "', "
                    +"      '" + this.getTrain().getIdtrain() + "', "
                    +"      '" + this.departuredate + "', "
                    +"      '" + this.bookingdate + "' "
                    +"      )";
            this.idreservation = DBHelper.insertQueryGetId(SQL);

        } else {
            String SQL = "UPDATE reservation SET "
                    +" idpassenger = '" + this.getPassenger().getIdpassenger() + "', "
                    +" idtrain = '" + this.getTrain().getIdtrain() + "', "
                    +" departuredate = '" + this.departuredate + "', "
                    +" bookingdate = '" + this.bookingdate + "' "
                    +" WHERE idreservation = '" + this.idreservation + "'";
            DBHelper.executeQuery(SQL);
        }
    }

    public void delete(){
        String SQL = "DELETE FROM reservation WHERE idreservation = '" +this.idreservation + "'";
        DBHelper.executeQuery(SQL);
    }

}
```

d. Transaction

```
/*
 * 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 backend;
import java.util.ArrayList;
import java.sql.*;
/**
 *
 * @author faradisha
 */
public class Transaction {
    private int idtransaction;
    private String paydate;
    private int qtyticket;
```

```
private int ticketprice;
private int totalpay;
private Reservation reservation = new Reservation();

public int getIdtransaction() {
    return idtransaction;
}

public void setIdtransaction(int idtransaction) {
    this.idtransaction = idtransaction;
}

public String getPaydate() {
    return paydate;
}

public void setPaydate(String paydate) {
    this.paydate = paydate;
}

public int getQtyticket() {
    return qtyticket;
}

public void setQtyticket(int qtyticket) {
    this.qtyticket = qtyticket;
}

public int getTicketprice() {
    return ticketprice;
}

public void setTicketprice(int ticketprice) {
    this.ticketprice = ticketprice;
}

public int getTotalpay() {
    return totalpay;
}

public void setTotalpay(int totalpay) {
    this.totalpay = totalpay;
}

public Reservation getReservation() {
    return reservation;
}

public void setReservation(Reservation reservation) {
```

```
    this.reservation = reservation;
}

public Transaction(){}

public Transaction(String paydate, int qtyticket, int ticketprice, int totalpay, Reservation reservation){
    this.paydate = paydate;
    this.qtyticket = qtyticket;
    this.ticketprice = ticketprice;
    this.totalpay = totalpay;
    this.reservation = reservation;
}

public Transaction getById(int id){
    Transaction transaction = new Transaction();
    ResultSet rs = DBHelper.selectQuery("SELECT"
                + "     t3.idtransaction AS idtransaction, "
                + "     t3.paydate AS paydate, "
                + "     t3.qtyticket AS qtyticket, "
                + "     t3.ticketprice AS ticketprice, "
                + "     t3.totalpay AS totalpay, "
                + "     r.idreservation AS idreservation, "
                + "     r.idpassenger AS idpassenger, "
                + "     r.idtrain AS idtrain, "
                + "     r.departuredate AS departuredate, "
                + "     r.bookingdate AS bookingdate "
                + "     FROM transaction t3 "
                + "     LEFT JOIN reservation r ON r.idreservation = t3.idreservation "
                + "     WHERE t3.idtransaction = '" + id + "'");

    try {
        while(rs.next()){
            transaction = new Transaction();
            transaction.setIdtransaction(rs.getInt("idtransaction"));
            transaction.setPaydate(rs.getString("paydate"));
            transaction.setQtyticket(rs.getInt("qtyticket"));
            transaction.setTicketprice(rs.getInt("ticketprice"));
            transaction.setTotalpay(rs.getInt("totalpay"));
            transaction.getReservation().setIdreservation(rs.getInt("idreservation"));
            transaction.getReservation().getPassenger().setIdpassenger(rs.getInt("idpassenger"));
            transaction.getReservation().getTrain().setIdtrain(rs.getInt("idtrain"));
            transaction.getReservation().setDeparturedate(rs.getString("departuredate"));
            transaction.getReservation().setBookingdate(rs.getString("bookingdate"));
        }
    }
    catch (Exception e) {
        e.printStackTrace();
    }
    return transaction;
```

```
}

public ArrayList<Transaction> getAll(){
   ArrayList<Transaction> ListTransaction = new ArrayList();
   ResultSet rs = DBHelper.selectQuery("SELECT"
               + "    t3.idtransaction AS idtransaction, "
               + "    t3.paydate AS paydate, "
               + "    t3.qtyticket AS qtyticket, "
               + "    t3.ticketprice AS ticketprice, "
               + "    t3.totalpay AS totalpay, "
               + "    r.idreservation AS idreservation, "
               + "    r.idpassenger AS idpassenger, "
               + "    r.idtrain AS idtrain, "
               + "    r.departuredate AS departuredate, "
               + "    r.bookingdate AS bookingdate "
               + "    FROM transaction t3 "
               + "    LEFT JOIN reservation r ON r.idreservation = t3.idreservation ");
    try {
      while(rs.next()){
         Transaction transaction = new Transaction();
         transaction.setIdtransaction(rs.getInt("idtransaction"));
         transaction.setPaydate(rs.getString("paydate"));
         transaction.setQtyticket(rs.getInt("qtyticket"));
         transaction.setTicketprice(rs.getInt("ticketprice"));
         transaction.setTotalpay(rs.getInt("totalpay"));
         transaction.getReservation().setIdreservation(rs.getInt("idreservation"));
         transaction.getReservation().getPassenger().setIdpassenger(rs.getInt("idpassenger"));
         transaction.getReservation().getTrain().setIdtrain(rs.getInt("idtrain"));
         transaction.getReservation().setDeparturedate(rs.getString("departuredate"));
         transaction.getReservation().setBookingdate(rs.getString("bookingdate"));

         ListTransaction.add(transaction);
      }
   }
   catch (Exception e) {
      e.printStackTrace();
   }
   return ListTransaction;
}

public ArrayList<Transaction> search(String keyword){
   ArrayList<Transaction> ListTransaction = new ArrayList();
   ResultSet rs = DBHelper.selectQuery("SELECT"
               + "    t3.idtransaction AS idtransaction, "
               + "    t3.paydate AS paydate, "
               + "    t3.qtyticket AS qtyticket, "
               + "    t3.ticketprice AS ticketprice, "
               + "    t3.totalpay AS totalpay, "
               + "    r.idreservation AS idreservation, "
```

```
                + "    r.idpassenger AS idpassenger, "
                + "    r.idtrain AS idtrain, "
                + "    r.departuredate AS departuredate, "
                + "    r.bookingdate AS bookingdate "
                + "    FROM transaction t3 "
                + "    LEFT JOIN reservation r ON r.idreservation = t3.idreservation "
                + "    WHERE t3.paydate LIKE '%" + keyword + "%' "
                    + "        OR t3.idtransaction LIKE '%" + keyword + "%' "
                    + "        OR t3.qtyticket LIKE '%" + keyword + "%' "
                    + "        OR t3.ticketprice LIKE '%" + keyword + "%' "
                    + "        OR t3.totalpay LIKE '%" + keyword + "%' "
                    + "        OR r.bookingdate LIKE '%" + keyword + "%' ");
    try {
       while(rs.next()){
          Transaction transaction = new Transaction();
          transaction.setIdtransaction(rs.getInt("idtransaction"));
          transaction.setPaydate(rs.getString("paydate"));
          transaction.setQtyticket(rs.getInt("qtyticket"));
          transaction.setTicketprice(rs.getInt("ticketprice"));
          transaction.setTotalpay(rs.getInt("totalpay"));
          transaction.getReservation().setIdreservation(rs.getInt("idreservation"));
          transaction.getReservation().getPassenger().setIdpassenger(rs.getInt("idpassenger"));
          transaction.getReservation().getTrain().setIdtrain(rs.getInt("idtrain"));
          transaction.getReservation().setDeparturedate(rs.getString("departuredate"));
          transaction.getReservation().setBookingdate(rs.getString("bookingdate"));

          ListTransaction.add(transaction);
       }
    }
    catch (Exception e) {
       e.printStackTrace();
    }
    return ListTransaction;
  }

  public void save(){
    if(getById(idtransaction).getIdtransaction()==0){
       String SQL = "INSERT INTO transaction (paydate, qtyticket, ticketprice, totalpay, idreservation)
VALUES ("
          + " '" + this.paydate + "', "
          + " '" + this.qtyticket + "', "
          + " '" + this.ticketprice + "', "
          + " '" + this.totalpay + "', "
          + " '" + this.getReservation().getIdreservation() + "' "
          + " )";
       this.idtransaction = DBHelper.insertQueryGetId(SQL);
    } else {
        String SQL = "UPDATE transaction SET "
          + " paydate = '" + this.paydate + "', "
```

```
            + " qtyticket = '" + this.qtyticket + "', "
            + " ticketprice = '" + this.ticketprice + "', "
            + " totalpay = '" + this.totalpay + "', "
            + " idreservation = '" + this.getReservation().getIdreservation() + "' "
            + " WHERE idtransaction = '" + this.idtransaction + "'";
        DBHelper.executeQuery(SQL);
    }
  }

  public void delete() {
    String SQL = "DELETE FROM transaction WHERE idtransaction = '" + this.idtransaction + "'";
    DBHelper.executeQuery(SQL);
  }

}
```

2. Class FrontEnd

1. FrmTrain

```
/*
 * 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 frontend;
import backend.*;
import java.util.ArrayList;
import javax.swing.table.DefaultTableModel;
/**
 *
 * @author faradisha
 */
public class FrmTrain extends javax.swing.JFrame {

    /**
     * Creates new form FrmTrain
     */
    public FrmTrain() {
        initComponents();
        tampilkanData();
        kosongkanForm();
    }
    public void kosongkanForm() {
        txtIdTrain.setText("0");
        txtTrainName.setText("");
```

```
        txtDepartureTime.setText("");
        txtTicketPrice.setText("");
        txtOrigin.setText("");
        txtDestination.setText("");
    }

    public void tampilkanData() {
        String[] kolom = {"ID Train", "Train Name", "Departure Time", "Ticket Price", "Origin",
"Destination"};
        ArrayList<Train> list = new Train().getAll();
        Object rowData[] = new Object[7];

        tblTrain.setModel(new DefaultTableModel(new Object[][] {}, kolom));

        for(Train k : list) {
            rowData[0] = k.getIdtrain();
            rowData[1] = k.getTrainname();
            rowData[2] = k.getDeparturetime();
            rowData[3] = k.getTicketprice();
            rowData[4] = k.getOrigin();
            rowData[5] = k.getDestination();

            ((DefaultTableModel)tblTrain.getModel()).addRow(rowData);
        }
    }

    public void search(String keyword) {
        String[] kolom = {"ID Train", "Train Name", "Departure Time", "Ticket Price", "Origin",
"Destination"};
        ArrayList<Train> list = new Train().search(keyword);
        Object rowData[] = new Object[7];

        tblTrain.setModel(new DefaultTableModel(new Object[][] {}, kolom));

        for(Train k : list) {
            rowData[0] = k.getIdtrain();
            rowData[1] = k.getTrainname();
            rowData[2] = k.getDeparturetime();
            rowData[3] = k.getTicketprice();
            rowData[4] = k.getOrigin();
            rowData[5] = k.getDestination();

            ((DefaultTableModel)tblTrain.getModel()).addRow(rowData);
        }
    }
    /**
     * This method is called from within the constructor to initialize the form.
     * WARNING: Do NOT modify this code. The content of this method is always
     * regenerated by the Form Editor.
```

```
 */
@SuppressWarnings("unchecked")
// <editor-fold defaultstate="collapsed" desc="Generated Code">
private void initComponents() {

    jPanel1 = new javax.swing.JPanel();
    jLabel1 = new javax.swing.JLabel();
    btnTrain = new javax.swing.JButton();
    btnPassenger = new javax.swing.JButton();
    btnTicket = new javax.swing.JButton();
    btnReservation = new javax.swing.JButton();
    btnTransaction = new javax.swing.JButton();
    btnExit = new javax.swing.JButton();
    jLabel2 = new javax.swing.JLabel();
    jLabel3 = new javax.swing.JLabel();
    jLabel4 = new javax.swing.JLabel();
    jLabel5 = new javax.swing.JLabel();
    jLabel6 = new javax.swing.JLabel();
    jLabel7 = new javax.swing.JLabel();
    jLabel8 = new javax.swing.JLabel();
    txtIdTrain = new javax.swing.JTextField();
    txtTrainName = new javax.swing.JTextField();
    txtDepartureTime = new javax.swing.JTextField();
    txtTicketPrice = new javax.swing.JTextField();
    txtOrigin = new javax.swing.JTextField();
    txtDestination = new javax.swing.JTextField();
    jScrollPane1 = new javax.swing.JScrollPane();
    tblTrain = new javax.swing.JTable();
    btnAddNew = new javax.swing.JButton();
    btnSave = new javax.swing.JButton();
    btnRemove = new javax.swing.JButton();
    btnSearch = new javax.swing.JButton();
    txtSearch = new javax.swing.JTextField();

    setDefaultCloseOperation(javax.swing.WindowConstants.EXIT_ON_CLOSE);

    jPanel1.setBackground(new java.awt.Color(153, 153, 255));

    jLabel1.setFont(new java.awt.Font("Trebuchet MS", 3, 18)); // NOI18N
    jLabel1.setText("DASHBOARD");

    btnTrain.setText("Train");
    btnTrain.addActionListener(new java.awt.event.ActionListener() {
        public void actionPerformed(java.awt.event.ActionEvent evt) {
            btnTrainActionPerformed(evt);
        }
    });

    btnPassenger.setText("Passenger");
```

```
        btnPassenger.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                btnPassengerActionPerformed(evt);
            }
        });

        btnTicket.setText("Ticket");
        btnTicket.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                btnTicketActionPerformed(evt);
            }
        });

        btnReservation.setText("Reservation");
        btnReservation.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                btnReservationActionPerformed(evt);
            }
        });

        btnTransaction.setText("Transaction");
        btnTransaction.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                btnTransactionActionPerformed(evt);
            }
        });

        btnExit.setBackground(new java.awt.Color(255, 51, 51));
        btnExit.setText("Exit");
        btnExit.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                btnExitActionPerformed(evt);
            }
        });

        javax.swing.GroupLayout jPanel1Layout = new javax.swing.GroupLayout(jPanel1);
        jPanel1.setLayout(jPanel1Layout);
        jPanel1Layout.setHorizontalGroup(
            jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addGroup(jPanel1Layout.createSequentialGroup()

.addGroup(jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                    .addGroup(jPanel1Layout.createSequentialGroup()
                        .addGap(55, 55, 55)
                        .addComponent(jLabel1))
                    .addGroup(jPanel1Layout.createSequentialGroup()
                        .addGap(63, 63, 63)

.addGroup(jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.TRAILING, false)
```

```
                    .addComponent(btnReservation, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)
                    .addComponent(btnTransaction, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)
                    .addComponent(btnTicket, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)
                    .addComponent(btnPassenger, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)
                    .addComponent(btnTrain, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)
                    .addComponent(btnExit, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE))))
            .addContainerGap(77, Short.MAX_VALUE))
    );
    jPanel1Layout.setVerticalGroup(
       jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
       .addGroup(jPanel1Layout.createSequentialGroup()
          .addGap(31, 31, 31)
          .addComponent(jLabel1)
          .addGap(43, 43, 43)
          .addComponent(btnTrain)
          .addGap(18, 18, 18)
          .addComponent(btnPassenger)
          .addGap(18, 18, 18)
          .addComponent(btnTicket)
          .addGap(26, 26, 26)
          .addComponent(btnReservation)
          .addGap(26, 26, 26)
          .addComponent(btnTransaction)
          .addGap(74, 74, 74)
          .addComponent(btnExit)
          .addContainerGap(javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE))
    );

    jLabel2.setFont(new java.awt.Font("Trebuchet MS", 3, 18)); // NOI18N
    jLabel2.setText("TRAIN DETAILS");

    jLabel3.setText("ID Train");

    jLabel4.setText("Train Name");

    jLabel5.setText("Departure Time");

    jLabel6.setText("Ticket Price");

    jLabel7.setText("Origin");

    jLabel8.setText("Destination");
```

```
txtIdTrain.setEnabled(false);
txtIdTrain.addActionListener(new java.awt.event.ActionListener() {
    public void actionPerformed(java.awt.event.ActionEvent evt) {
        txtIdTrainActionPerformed(evt);
    }
});

txtTrainName.addActionListener(new java.awt.event.ActionListener() {
    public void actionPerformed(java.awt.event.ActionEvent evt) {
        txtTrainNameActionPerformed(evt);
    }
});

tblTrain.setModel(new javax.swing.table.DefaultTableModel(
    new Object [][] {
        {null, null, null, null, null, null},
        {null, null, null, null, null, null},
        {null, null, null, null, null, null},
        {null, null, null, null, null, null}
    },
    new String [] {
        "ID Train", "Train Name", "Departure Time", "Ticket Price", "Origin", "Destination"
    }
));
tblTrain.addMouseListener(new java.awt.event.MouseAdapter() {
    public void mouseClicked(java.awt.event.MouseEvent evt) {
        tblTrainMouseClicked(evt);
    }
});
jScrollPane1.setViewportView(tblTrain);

btnAddNew.setBackground(new java.awt.Color(153, 153, 255));
btnAddNew.setText("Add New");
btnAddNew.addActionListener(new java.awt.event.ActionListener() {
    public void actionPerformed(java.awt.event.ActionEvent evt) {
        btnAddNewActionPerformed(evt);
    }
});

btnSave.setBackground(new java.awt.Color(153, 153, 255));
btnSave.setText("Save");
btnSave.addActionListener(new java.awt.event.ActionListener() {
    public void actionPerformed(java.awt.event.ActionEvent evt) {
        btnSaveActionPerformed(evt);
    }
});

btnRemove.setBackground(new java.awt.Color(153, 153, 255));
btnRemove.setText("Remove");
```

```
        btnRemove.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                btnRemoveActionPerformed(evt);
            }
        });

        btnSearch.setBackground(new java.awt.Color(153, 153, 255));
        btnSearch.setText("Search");
        btnSearch.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                btnSearchActionPerformed(evt);
            }
        });

        javax.swing.GroupLayout layout = new javax.swing.GroupLayout(getContentPane());
        getContentPane().setLayout(layout);
        layout.setHorizontalGroup(
            layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addGroup(layout.createSequentialGroup()
                .addComponent(jPanel1, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE)
                .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                    .addGroup(layout.createSequentialGroup()
                        .addGap(39, 39, 39)
                        .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                            .addGroup(layout.createSequentialGroup()

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.TRAILING)
                                .addComponent(jLabel4)
                                .addComponent(jLabel3)
                                .addComponent(jLabel5)
                                .addComponent(jLabel6)
                                .addComponent(jLabel7)
                                .addComponent(jLabel8))
                            .addGap(67, 67, 67)

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING, false)
                                .addComponent(txtIdTrain, javax.swing.GroupLayout.PREFERRED_SIZE, 63,
javax.swing.GroupLayout.PREFERRED_SIZE)
                                .addComponent(txtTrainName, javax.swing.GroupLayout.DEFAULT_SIZE, 196,
Short.MAX_VALUE)
                                .addComponent(txtDepartureTime)
                                .addComponent(txtTicketPrice)
                                .addComponent(txtOrigin)
                                .addComponent(txtDestination))
                            .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
```

```
                        .addComponent(btnAddNew)
                        .addComponent(btnSave)
                        .addComponent(btnRemove))
                    .addGap(41, 41, 41))
                .addGroup(layout.createSequentialGroup()
                    .addGap(21, 21, 21)
                    .addComponent(btnSearch)
                    .addGap(18, 18, 18)
                    .addComponent(txtSearch, javax.swing.GroupLayout.PREFERRED_SIZE, 263,
javax.swing.GroupLayout.PREFERRED_SIZE)
                    .addContainerGap(javax.swing.GroupLayout.DEFAULT_SIZE,
Short.MAX_VALUE))))
            .addGroup(javax.swing.GroupLayout.Alignment.TRAILING,
layout.createSequentialGroup()
                .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED, 31,
Short.MAX_VALUE)
                .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                    .addGroup(javax.swing.GroupLayout.Alignment.TRAILING,
layout.createSequentialGroup()
                        .addComponent(jLabel2)
                        .addGap(183, 183, 183))
                    .addGroup(javax.swing.GroupLayout.Alignment.TRAILING,
layout.createSequentialGroup()
                        .addComponent(jScrollPane1, javax.swing.GroupLayout.PREFERRED_SIZE, 505,
javax.swing.GroupLayout.PREFERRED_SIZE)
                        .addContainerGap())))))
    );
    layout.setVerticalGroup(
        layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
        .addComponent(jPanel1, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)
        .addGroup(layout.createSequentialGroup()
            .addContainerGap(27, Short.MAX_VALUE)
            .addComponent(jLabel2)
            .addGap(40, 40, 40)
            .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                .addComponent(jLabel3)
                .addComponent(txtIdTrain, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE))
            .addGap(18, 18, 18)
            .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELINE)
                .addComponent(jLabel4)
                .addComponent(txtTrainName, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE))
            .addGap(18, 18, 18)
            .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                .addGroup(layout.createSequentialGroup()
                    .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELINE)
                        .addComponent(jLabel5, javax.swing.GroupLayout.PREFERRED_SIZE, 32,
```

```
javax.swing.GroupLayout.PREFERRED_SIZE)
                    .addComponent(txtDepartureTime, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE))
                .addGap(18, 18, 18)
                .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELINE)
                    .addComponent(jLabel6)
                    .addComponent(txtTicketPrice, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE))
                .addGap(18, 18, 18)
                .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELINE)
                    .addComponent(jLabel7)
                    .addComponent(txtOrigin, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE)
                    .addComponent(btnRemove))
                .addGap(18, 18, 18)
                .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELINE)
                    .addComponent(jLabel8)
                    .addComponent(txtDestination, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE)))
            .addGroup(layout.createSequentialGroup()
                .addComponent(btnSave)
                .addGap(18, 18, 18)
                .addComponent(btnAddNew)))
        .addGap(18, 18, 18)
        .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELINE)
            .addComponent(btnSearch)
            .addComponent(txtSearch, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE))
        .addGap(17, 17, 17)
        .addComponent(jScrollPane1, javax.swing.GroupLayout.PREFERRED_SIZE, 110,
javax.swing.GroupLayout.PREFERRED_SIZE))
    );

    pack();
}// </editor-fold>

private void btnTrainActionPerformed(java.awt.event.ActionEvent evt) {
    // TODO add your handling code here:
    java.awt.EventQueue.invokeLater(new Runnable() {
        public void run() {
            new FrmTrain().setVisible(true);
            dispose();
        }
    });
}

private void btnTicketActionPerformed(java.awt.event.ActionEvent evt) {
    // TODO add your handling code here:
     java.awt.EventQueue.invokeLater(new Runnable() {
```

```
        public void run() {
            new FrmTicket().setVisible(true);
            dispose();
        }
    });
}

private void txtTrainNameActionPerformed(java.awt.event.ActionEvent evt) {
    // TODO add your handling code here:
}

private void btnSearchActionPerformed(java.awt.event.ActionEvent evt) {
    // TODO add your handling code here:
    search(txtSearch.getText());

}

private void btnPassengerActionPerformed(java.awt.event.ActionEvent evt) {
    // TODO add your handling code here:
    java.awt.EventQueue.invokeLater(new Runnable() {
        public void run() {
            new FrmPassenger().setVisible(true);
            dispose();
        }
    });
}

private void btnSaveActionPerformed(java.awt.event.ActionEvent evt) {
    // TODO add your handling code here:
    Train train = new Train();
    train.setIdtrain(Integer.parseInt(txtIdTrain.getText()));
    train.setTrainname(txtTrainName.getText());
    train.setDeparturetime(txtDepartureTime.getText());
    train.setTicketprice(Integer.parseInt(txtTicketPrice.getText()));
    train.setOrigin(txtOrigin.getText());
    train.setDestination(txtDestination.getText());
    train.save();

    txtIdTrain.setText(Integer.toString(train.getIdtrain()));

    tampilkanData();
}

private void btnAddNewActionPerformed(java.awt.event.ActionEvent evt) {
    // TODO add your handling code here:
    kosongkanForm();
}

private void btnRemoveActionPerformed(java.awt.event.ActionEvent evt) {
```

```
    // TODO add your handling code here:
    DefaultTableModel model = (DefaultTableModel)tblTrain.getModel();
    int row = tblTrain.getSelectedRow();

    Train train = new Train().getById(Integer.parseInt(model.getValueAt(row, 0).toString()));
    train.delete();
    kosongkanForm();
    tampilkanData();
}

private void tblTrainMouseClicked(java.awt.event.MouseEvent evt) {
    // TODO add your handling code here:
     DefaultTableModel model = (DefaultTableModel)tblTrain.getModel();
    int row = tblTrain.getSelectedRow();
    Train train = new Train();

    train = train.getById(Integer.parseInt(model.getValueAt(row, 0).toString()));

    txtIdTrain.setText(String.valueOf(train.getIdtrain()));
    txtTrainName.setText(train.getTrainname());
    txtDepartureTime.setText(train.getDeparturetime());
    txtTicketPrice.setText(String.valueOf((train.getTicketprice())));
    txtOrigin.setText(train.getOrigin());
    txtDestination.setText(train.getDestination());
}

private void btnReservationActionPerformed(java.awt.event.ActionEvent evt) {
    // TODO add your handling code here:
    java.awt.EventQueue.invokeLater(new Runnable() {
        public void run() {
            new FrmReservation().setVisible(true);
            dispose();
        }
    });
}

private void btnTransactionActionPerformed(java.awt.event.ActionEvent evt) {
    // TODO add your handling code here:
    java.awt.EventQueue.invokeLater(new Runnable() {
        public void run() {
            new FrmTransaction().setVisible(true);
            dispose();
        }
    });
}

private void btnExitActionPerformed(java.awt.event.ActionEvent evt) {
    // TODO add your handling code here:
    System.exit(0);
```

```
    }

    private void txtIdTrainActionPerformed(java.awt.event.ActionEvent evt) {
        // TODO add your handling code here:
    }

    /**
     * @param args the command line arguments
     */
    public static void main(String args[]) {
        /* Set the Nimbus look and feel */
        //<editor-fold defaultstate="collapsed" desc=" Look and feel setting code (optional) ">
        /* If Nimbus (introduced in Java SE 6) is not available, stay with the default look and feel.
         * For details see http://download.oracle.com/javase/tutorial/uiswing/lookandfeel/plaf.html
         */
        try {
            for (javax.swing.UIManager.LookAndFeelInfo info :
javax.swing.UIManager.getInstalledLookAndFeels()) {
                if ("Nimbus".equals(info.getName())) {
                    javax.swing.UIManager.setLookAndFeel(info.getClassName());
                    break;
                }
            }
        } catch (ClassNotFoundException ex) {

java.util.logging.Logger.getLogger(FrmTrain.class.getName()).log(java.util.logging.Level.SEVERE, null,
ex);
        } catch (InstantiationException ex) {

java.util.logging.Logger.getLogger(FrmTrain.class.getName()).log(java.util.logging.Level.SEVERE, null,
ex);
        } catch (IllegalAccessException ex) {

java.util.logging.Logger.getLogger(FrmTrain.class.getName()).log(java.util.logging.Level.SEVERE, null,
ex);
        } catch (javax.swing.UnsupportedLookAndFeelException ex) {

java.util.logging.Logger.getLogger(FrmTrain.class.getName()).log(java.util.logging.Level.SEVERE, null,
ex);
        }
        //</editor-fold>

        /* Create and display the form */
        java.awt.EventQueue.invokeLater(new Runnable() {
            public void run() {
                new FrmTrain().setVisible(true);
            }
        });
    }
```

```
    // Variables declaration - do not modify
    private javax.swing.JButton btnAddNew;
    private javax.swing.JButton btnExit;
    private javax.swing.JButton btnPassenger;
    private javax.swing.JButton btnRemove;
    private javax.swing.JButton btnReservation;
    private javax.swing.JButton btnSave;
    private javax.swing.JButton btnSearch;
    private javax.swing.JButton btnTicket;
    private javax.swing.JButton btnTrain;
    private javax.swing.JButton btnTransaction;
    private javax.swing.JLabel jLabel1;
    private javax.swing.JLabel jLabel2;
    private javax.swing.JLabel jLabel3;
    private javax.swing.JLabel jLabel4;
    private javax.swing.JLabel jLabel5;
    private javax.swing.JLabel jLabel6;
    private javax.swing.JLabel jLabel7;
    private javax.swing.JLabel jLabel8;
    private javax.swing.JPanel jPanel1;
    private javax.swing.JScrollPane jScrollPane1;
    private javax.swing.JTable tblTrain;
    private javax.swing.JTextField txtDepartureTime;
    private javax.swing.JTextField txtDestination;
    private javax.swing.JTextField txtIdTrain;
    private javax.swing.JTextField txtOrigin;
    private javax.swing.JTextField txtSearch;
    private javax.swing.JTextField txtTicketPrice;
    private javax.swing.JTextField txtTrainName;
    // End of variables declaration
}
```

2. Class FrmPassenger

```
/*
 * 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 frontend;
import backend.*;
import java.util.ArrayList;
import javax.swing.table.DefaultTableModel;
/**
 *
 * @author faradisha
 */
public class FrmPassenger extends javax.swing.JFrame {

    /**
     * Creates new form FrmTrain
     */
    public FrmPassenger() {
        initComponents();
        tampilkanData();
        kosongkanForm();
    }
    public void kosongkanForm() {
        txtIdPassenger.setText("0");
        txtPassengerName.setText("");
        txtAddress.setText("");
        txtGender.setText("");
        txtPhone.setText("");
    }

    public void tampilkanData() {
        String[] kolom = {"ID Passenger", "Passenger Name", "Address", "Gender", "Phone"};
        ArrayList<Passenger> list = new Passenger().getAll();
        Object rowData[] = new Object[5];

        tblPassenger.setModel(new DefaultTableModel(new Object[][] {}, kolom));

        for(Passenger p : list) {
            rowData[0] = p.getIdpassenger();
            rowData[1] = p.getPassengername();
            rowData[2] = p.getAddress();
            rowData[3] = p.getGender();
            rowData[4] = p.getPhone();

            ((DefaultTableModel)tblPassenger.getModel()).addRow(rowData);
        }
    }

    public void search(String keyword) {
```

```
    String[] kolom = {"ID Passenger", "Passenger Name", "Address", "Gender", "Phone"};
    ArrayList<Passenger> list = new Passenger().search(keyword);
    Object rowData[] = new Object[5];

    tblPassenger.setModel(new DefaultTableModel(new Object[][] {}, kolom));

    for(Passenger p : list) {
        rowData[0] = p.getIdpassenger();
        rowData[1] = p.getPassengername();
        rowData[2] = p.getAddress();
        rowData[3] = p.getGender();
        rowData[4] = p.getPhone();

        ((DefaultTableModel)tblPassenger.getModel()).addRow(rowData);
    }
}
/**
 * This method is called from within the constructor to initialize the form.
 * WARNING: Do NOT modify this code. The content of this method is always
 * regenerated by the Form Editor.
 */
@SuppressWarnings("unchecked")
// <editor-fold defaultstate="collapsed" desc="Generated Code">
private void initComponents() {

    jPanel1 = new javax.swing.JPanel();
    jLabel1 = new javax.swing.JLabel();
    btnTrain = new javax.swing.JButton();
    btnPassenger = new javax.swing.JButton();
    btnTicket = new javax.swing.JButton();
    btnReservation = new javax.swing.JButton();
    btnTransaction = new javax.swing.JButton();
    btnExit = new javax.swing.JButton();
    jLabel2 = new javax.swing.JLabel();
    jLabel3 = new javax.swing.JLabel();
    jLabel4 = new javax.swing.JLabel();
    jLabel5 = new javax.swing.JLabel();
    jLabel6 = new javax.swing.JLabel();
    jLabel7 = new javax.swing.JLabel();
    txtIdPassenger = new javax.swing.JTextField();
    txtPassengerName = new javax.swing.JTextField();
    txtAddress = new javax.swing.JTextField();
    txtGender = new javax.swing.JTextField();
    txtPhone = new javax.swing.JTextField();
    jScrollPane1 = new javax.swing.JScrollPane();
    tblPassenger = new javax.swing.JTable();
    btnAddNew = new javax.swing.JButton();
    btnSave = new javax.swing.JButton();
    btnRemove = new javax.swing.JButton();
```

```
btnSearch = new javax.swing.JButton();
txtSearch = new javax.swing.JTextField();

setDefaultCloseOperation(javax.swing.WindowConstants.EXIT_ON_CLOSE);

jPanel1.setBackground(new java.awt.Color(153, 153, 255));

jLabel1.setFont(new java.awt.Font("Trebuchet MS", 3, 18)); // NOI18N
jLabel1.setText("DASHBOARD");

btnTrain.setText("Train");
btnTrain.addActionListener(new java.awt.event.ActionListener() {
    public void actionPerformed(java.awt.event.ActionEvent evt) {
        btnTrainActionPerformed(evt);
    }
});

btnPassenger.setText("Passenger");
btnPassenger.addActionListener(new java.awt.event.ActionListener() {
    public void actionPerformed(java.awt.event.ActionEvent evt) {
        btnPassengerActionPerformed(evt);
    }
});

btnTicket.setText("Ticket");
btnTicket.addActionListener(new java.awt.event.ActionListener() {
    public void actionPerformed(java.awt.event.ActionEvent evt) {
        btnTicketActionPerformed(evt);
    }
});

btnReservation.setText("Reservation");
btnReservation.addActionListener(new java.awt.event.ActionListener() {
    public void actionPerformed(java.awt.event.ActionEvent evt) {
        btnReservationActionPerformed(evt);
    }
});

btnTransaction.setText("Transaction");
btnTransaction.addActionListener(new java.awt.event.ActionListener() {
    public void actionPerformed(java.awt.event.ActionEvent evt) {
        btnTransactionActionPerformed(evt);
    }
});

btnExit.setBackground(new java.awt.Color(255, 51, 51));
btnExit.setText("Exit");
btnExit.addActionListener(new java.awt.event.ActionListener() {
    public void actionPerformed(java.awt.event.ActionEvent evt) {
```

```
            btnExitActionPerformed(evt);
        }
    });

    javax.swing.GroupLayout jPanel1Layout = new javax.swing.GroupLayout(jPanel1);
    jPanel1.setLayout(jPanel1Layout);
    jPanel1Layout.setHorizontalGroup(
        jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
        .addGroup(jPanel1Layout.createSequentialGroup()

.addGroup(jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                .addGroup(jPanel1Layout.createSequentialGroup()
                    .addGap(55, 55, 55)
                    .addComponent(jLabel1))
                .addGroup(jPanel1Layout.createSequentialGroup()
                    .addGap(63, 63, 63)

.addGroup(jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.TRAILING,
false)
                        .addComponent(btnReservation, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)
                        .addComponent(btnTransaction, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)
                        .addComponent(btnTicket, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)
                        .addComponent(btnPassenger, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)
                        .addComponent(btnTrain, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)
                        .addComponent(btnExit, javax.swing.GroupLayout.Alignment.LEADING,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.DEFAULT_SIZE,
Short.MAX_VALUE))))
                .addContainerGap(77, Short.MAX_VALUE))
    );
    jPanel1Layout.setVerticalGroup(
        jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
        .addGroup(jPanel1Layout.createSequentialGroup()
            .addGap(31, 31, 31)
            .addComponent(jLabel1)
            .addGap(43, 43, 43)
            .addComponent(btnTrain)
            .addGap(18, 18, 18)
            .addComponent(btnPassenger)
            .addGap(18, 18, 18)
            .addComponent(btnTicket)
            .addGap(26, 26, 26)
            .addComponent(btnReservation)
            .addGap(26, 26, 26)
            .addComponent(btnTransaction)
```

```
        .addGap(75, 75, 75)
        .addComponent(btnExit)
        .addContainerGap(javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE))
);

jLabel2.setFont(new java.awt.Font("Trebuchet MS", 3, 18)); // NOI18N
jLabel2.setText("PASSENGER DETAILS");

jLabel3.setText("ID Passenger");

jLabel4.setText("Passenger Name");

jLabel5.setText("Address");

jLabel6.setText("Gender");

jLabel7.setText("Phone");

txtIdPassenger.setEnabled(false);

txtPassengerName.addActionListener(new java.awt.event.ActionListener() {
    public void actionPerformed(java.awt.event.ActionEvent evt) {
        txtPassengerNameActionPerformed(evt);
    }
});

tblPassenger.setModel(new javax.swing.table.DefaultTableModel(
    new Object [][] {
        {null, null, null, null, null},
        {null, null, null, null, null},
        {null, null, null, null, null},
        {null, null, null, null, null}
    },
    new String [] {
        "ID Passenger", "Passenger Name", "Address", "Gender", "Phone"
    }
));
tblPassenger.addMouseListener(new java.awt.event.MouseAdapter() {
    public void mouseClicked(java.awt.event.MouseEvent evt) {
        tblPassengerMouseClicked(evt);
    }
});
jScrollPane1.setViewportView(tblPassenger);

btnAddNew.setBackground(new java.awt.Color(153, 153, 255));
btnAddNew.setText("Add New");
btnAddNew.addActionListener(new java.awt.event.ActionListener() {
    public void actionPerformed(java.awt.event.ActionEvent evt) {
        btnAddNewActionPerformed(evt);
```

```
        }
    });

    btnSave.setBackground(new java.awt.Color(153, 153, 255));
    btnSave.setText("Save");
    btnSave.addActionListener(new java.awt.event.ActionListener() {
        public void actionPerformed(java.awt.event.ActionEvent evt) {
            btnSaveActionPerformed(evt);
        }
    });

    btnRemove.setBackground(new java.awt.Color(153, 153, 255));
    btnRemove.setText("Remove");
    btnRemove.addActionListener(new java.awt.event.ActionListener() {
        public void actionPerformed(java.awt.event.ActionEvent evt) {
            btnRemoveActionPerformed(evt);
        }
    });

    btnSearch.setBackground(new java.awt.Color(153, 153, 255));
    btnSearch.setText("Search");
    btnSearch.addActionListener(new java.awt.event.ActionListener() {
        public void actionPerformed(java.awt.event.ActionEvent evt) {
            btnSearchActionPerformed(evt);
        }
    });

    javax.swing.GroupLayout layout = new javax.swing.GroupLayout(getContentPane());
    getContentPane().setLayout(layout);
    layout.setHorizontalGroup(
        layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
        .addGroup(layout.createSequentialGroup()
            .addComponent(jPanel1, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE)
            .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                .addGroup(layout.createSequentialGroup()
                    .addGap(39, 39, 39)

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                        .addGroup(layout.createSequentialGroup()

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.TRAILING)
                                .addComponent(jLabel4)
                                .addComponent(jLabel3)
                                .addComponent(jLabel5)
                                .addComponent(jLabel6)
                                .addComponent(jLabel7))
                            .addGap(67, 67, 67)
```

```
.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING, false)
                        .addComponent(txtIdPassenger, javax.swing.GroupLayout.PREFERRED_SIZE,
63, javax.swing.GroupLayout.PREFERRED_SIZE)
                        .addComponent(txtPassengerName, javax.swing.GroupLayout.DEFAULT_SIZE,
196, Short.MAX_VALUE)
                        .addComponent(txtAddress)
                        .addComponent(txtGender)
                        .addComponent(txtPhone))
                    .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                        .addComponent(btnAddNew)
                        .addComponent(btnSave)
                        .addComponent(btnRemove))
                    .addGap(41, 41, 41))
                .addGroup(layout.createSequentialGroup()
                    .addGap(21, 21, 21)
                    .addComponent(btnSearch)
                    .addGap(18, 18, 18)
                    .addComponent(txtSearch, javax.swing.GroupLayout.PREFERRED_SIZE, 263,
javax.swing.GroupLayout.PREFERRED_SIZE)
                    .addContainerGap(javax.swing.GroupLayout.DEFAULT_SIZE,
Short.MAX_VALUE))))
            .addGroup(javax.swing.GroupLayout.Alignment.TRAILING,
layout.createSequentialGroup()
                .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED, 31,
Short.MAX_VALUE)

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                    .addGroup(javax.swing.GroupLayout.Alignment.TRAILING,
layout.createSequentialGroup()
                        .addComponent(jLabel2)
                        .addGap(183, 183, 183))
                    .addGroup(javax.swing.GroupLayout.Alignment.TRAILING,
layout.createSequentialGroup()
                        .addComponent(jScrollPane1, javax.swing.GroupLayout.PREFERRED_SIZE, 505,
javax.swing.GroupLayout.PREFERRED_SIZE)
                        .addContainerGap())))))
    );
    layout.setVerticalGroup(
        layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
        .addComponent(jPanel1, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)
        .addGroup(layout.createSequentialGroup()
            .addContainerGap(27, Short.MAX_VALUE)
            .addComponent(jLabel2)
            .addGap(40, 40, 40)
            .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
```

```
                .addComponent(jLabel3)
                .addComponent(txtIdPassenger, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE))
            .addGap(18, 18, 18)
            .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELINE)
                .addComponent(jLabel4)
                .addComponent(txtPassengerName, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE))
            .addGap(18, 18, 18)
            .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                .addGroup(layout.createSequentialGroup()

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELINE)
                        .addComponent(jLabel5, javax.swing.GroupLayout.PREFERRED_SIZE, 32,
javax.swing.GroupLayout.PREFERRED_SIZE)
                        .addComponent(txtAddress, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE))
                    .addGap(18, 18, 18)

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELINE)
                        .addComponent(jLabel6)
                        .addComponent(txtGender, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE))
                    .addGap(18, 18, 18)

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELINE)
                        .addComponent(jLabel7)
                        .addComponent(txtPhone, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE)
                        .addComponent(btnRemove)))
                .addGroup(layout.createSequentialGroup()
                    .addComponent(btnSave)
                    .addGap(18, 18, 18)
                    .addComponent(btnAddNew)))
            .addGap(58, 58, 58)
            .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELINE)
                .addComponent(btnSearch)
                .addComponent(txtSearch, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE))
            .addGap(17, 17, 17)
            .addComponent(jScrollPane1, javax.swing.GroupLayout.PREFERRED_SIZE, 110,
javax.swing.GroupLayout.PREFERRED_SIZE))
        );

        pack();
    }// </editor-fold>

    private void btnTrainActionPerformed(java.awt.event.ActionEvent evt) {
        // TODO add your handling code here:
```

```
    java.awt.EventQueue.invokeLater(new Runnable() {
        public void run() {
            new FrmTrain().setVisible(true);
            dispose();
        }
    });
}

private void btnTicketActionPerformed(java.awt.event.ActionEvent evt) {
    // TODO add your handling code here:
     java.awt.EventQueue.invokeLater(new Runnable() {
        public void run() {
            new FrmTicket().setVisible(true);
            dispose();
        }
    });
}

private void txtPassengerNameActionPerformed(java.awt.event.ActionEvent evt) {
    // TODO add your handling code here:
}

private void btnSearchActionPerformed(java.awt.event.ActionEvent evt) {
    // TODO add your handling code here:
    search(txtSearch.getText());

}

private void btnPassengerActionPerformed(java.awt.event.ActionEvent evt) {
    // TODO add your handling code here:
    java.awt.EventQueue.invokeLater(new Runnable() {
        public void run() {
            new FrmPassenger().setVisible(true);
            dispose();
        }
    });
}

private void btnSaveActionPerformed(java.awt.event.ActionEvent evt) {
    // TODO add your handling code here:
    Passenger passenger = new Passenger();
    passenger.setIdpassenger(Integer.parseInt(txtIdPassenger.getText()));
    passenger.setPassengername(txtPassengerName.getText());
    passenger.setAddress(txtAddress.getText());
    passenger.setGender(txtGender.getText());
    passenger.setPhone(txtPhone.getText());
    passenger.save();

    txtIdPassenger.setText(Integer.toString(passenger.getIdpassenger()));
```

```
        tampilkanData();
    }

    private void btnAddNewActionPerformed(java.awt.event.ActionEvent evt) {
        // TODO add your handling code here:
        kosongkanForm();
    }

    private void btnRemoveActionPerformed(java.awt.event.ActionEvent evt) {
        // TODO add your handling code here:
        DefaultTableModel model = (DefaultTableModel)tblPassenger.getModel();
        int row = tblPassenger.getSelectedRow();

        Passenger passenger = new Passenger().getById(Integer.parseInt(model.getValueAt(row,
0).toString()));
        passenger.delete();
        kosongkanForm();
        tampilkanData();
    }

    private void tblPassengerMouseClicked(java.awt.event.MouseEvent evt) {
        // TODO add your handling code here:
         DefaultTableModel model = (DefaultTableModel)tblPassenger.getModel();
        int row = tblPassenger.getSelectedRow();
        Passenger passenger = new Passenger();

        passenger = passenger.getById(Integer.parseInt(model.getValueAt(row, 0).toString()));

        txtIdPassenger.setText(String.valueOf(passenger.getIdpassenger()));
        txtPassengerName.setText(passenger.getPassengername());
        txtAddress.setText(passenger.getAddress());
        txtGender.setText(passenger.getGender());
        txtPhone.setText(passenger.getPhone());
    }

    private void btnReservationActionPerformed(java.awt.event.ActionEvent evt) {
        // TODO add your handling code here:
        java.awt.EventQueue.invokeLater(new Runnable() {
            public void run() {
                new FrmReservation().setVisible(true);
                dispose();
            }
        });
    }

    private void btnTransactionActionPerformed(java.awt.event.ActionEvent evt) {
        // TODO add your handling code here:
        java.awt.EventQueue.invokeLater(new Runnable() {
```

```
            public void run() {
                new FrmTransaction().setVisible(true);
                dispose();
            }
        });
    }

    private void btnExitActionPerformed(java.awt.event.ActionEvent evt) {
        // TODO add your handling code here:
        System.exit(0);
    }

    /**
     * @param args the command line arguments
     */
    public static void main(String args[]) {
        /* Set the Nimbus look and feel */
        //<editor-fold defaultstate="collapsed" desc=" Look and feel setting code (optional) ">
        /* If Nimbus (introduced in Java SE 6) is not available, stay with the default look and feel.
         * For details see http://download.oracle.com/javase/tutorial/uiswing/lookandfeel/plaf.html
         */
        try {
            for (javax.swing.UIManager.LookAndFeelInfo info :
javax.swing.UIManager.getInstalledLookAndFeels()) {
                if ("Nimbus".equals(info.getName())) {
                    javax.swing.UIManager.setLookAndFeel(info.getClassName());
                    break;
                }
            }
        } catch (ClassNotFoundException ex) {

java.util.logging.Logger.getLogger(FrmPassenger.class.getName()).log(java.util.logging.Level.SEVER
E, null, ex);
        } catch (InstantiationException ex) {

java.util.logging.Logger.getLogger(FrmPassenger.class.getName()).log(java.util.logging.Level.SEVER
E, null, ex);
        } catch (IllegalAccessException ex) {

java.util.logging.Logger.getLogger(FrmPassenger.class.getName()).log(java.util.logging.Level.SEVER
E, null, ex);
        } catch (javax.swing.UnsupportedLookAndFeelException ex) {

java.util.logging.Logger.getLogger(FrmPassenger.class.getName()).log(java.util.logging.Level.SEVER
E, null, ex);
        }
        //</editor-fold>
        //</editor-fold>
```

```
        /* Create and display the form */
        java.awt.EventQueue.invokeLater(new Runnable() {
            public void run() {
                new FrmPassenger().setVisible(true);
            }
        });
    }

    // Variables declaration - do not modify
    private javax.swing.JButton btnAddNew;
    private javax.swing.JButton btnExit;
    private javax.swing.JButton btnPassenger;
    private javax.swing.JButton btnRemove;
    private javax.swing.JButton btnReservation;
    private javax.swing.JButton btnSave;
    private javax.swing.JButton btnSearch;
    private javax.swing.JButton btnTicket;
    private javax.swing.JButton btnTrain;
    private javax.swing.JButton btnTransaction;
    private javax.swing.JLabel jLabel1;
    private javax.swing.JLabel jLabel2;
    private javax.swing.JLabel jLabel3;
    private javax.swing.JLabel jLabel4;
    private javax.swing.JLabel jLabel5;
    private javax.swing.JLabel jLabel6;
    private javax.swing.JLabel jLabel7;
    private javax.swing.JPanel jPanel1;
    private javax.swing.JScrollPane jScrollPane1;
    private javax.swing.JTable tblPassenger;
    private javax.swing.JTextField txtAddress;
    private javax.swing.JTextField txtGender;
    private javax.swing.JTextField txtIdPassenger;
    private javax.swing.JTextField txtPassengerName;
    private javax.swing.JTextField txtPhone;
    private javax.swing.JTextField txtSearch;
    // End of variables declaration
}
```

3. FrmTicket

```
/*
 * 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 frontend;
import backend.*;
```

```
import java.util.ArrayList;
import javax.swing.DefaultComboBoxModel;
import javax.swing.table.DefaultTableModel;
/**
 *
 * @author faradisha
 */
public class FrmTicket extends javax.swing.JFrame {

    /**
     * Creates new form FrmTrain
     */
    public FrmTicket() {
        initComponents();
        tampilkanData();
        kosongkanForm();
        tampilkanCmbKategori();
    }
    public void kosongkanForm() {
        txtIdTicket.setText("0");
        cmbTrain.setSelectedIndex(0);
        txtSchedule.setText("");
        txtSeat.setText("");
        txtClass.setText("");
    }

    public void tampilkanData() {
        String[] kolom = {"ID Ticket", "Train", "Schedule", "Seat", "Classs"};
        ArrayList<Ticket> list = new Ticket().getAll();
        Object rowData[] = new Object[5];

        tblTicket.setModel(new DefaultTableModel(new Object[][] {}, kolom));

        for(int i = 0; i < list.size(); i++) {
            rowData[0] = list.get(i).getIdticket();
            rowData[1] = list.get(i).getTrain().getTrainname();
            rowData[2] = list.get(i).getSchedule();
            rowData[3] = list.get(i).getSeat();
            rowData[4] = list.get(i).getClasss();

            ((DefaultTableModel)tblTicket.getModel()).addRow(rowData);
        }
    }

    public void search(String keyword) {
        String[] kolom = {"ID Ticket", "Train", "Schedule", "Seat", "Classs"};
        ArrayList<Ticket> list = new Ticket().search(keyword);
        Object rowData[] = new Object[5];
```

```
    tblTicket.setModel(new DefaultTableModel(new Object[][] {}, kolom));

   for(int i = 0; i < list.size(); i++) {
       rowData[0] = list.get(i).getIdticket();
       rowData[1] = list.get(i).getTrain().getTrainname();
       rowData[2] = list.get(i).getSchedule();
       rowData[3] = list.get(i).getSeat();
       rowData[4] = list.get(i).getClasss();

       ((DefaultTableModel)tblTicket.getModel()).addRow(rowData);
    }
}

public void tampilkanCmbKategori() {
   cmbTrain.setModel(new DefaultComboBoxModel(new Train().getAll().toArray()));
}
/**
 * This method is called from within the constructor to initialize the form.
 * WARNING: Do NOT modify this code. The content of this method is always
 * regenerated by the Form Editor.
 */
@SuppressWarnings("unchecked")
// <editor-fold defaultstate="collapsed" desc="Generated Code">
private void initComponents() {

    jPanel1 = new javax.swing.JPanel();
    jLabel1 = new javax.swing.JLabel();
    btnTrain = new javax.swing.JButton();
    btnPassenger = new javax.swing.JButton();
    btnTicket = new javax.swing.JButton();
    btnReservation = new javax.swing.JButton();
    btnTransaction = new javax.swing.JButton();
    btnExit = new javax.swing.JButton();
    jLabel2 = new javax.swing.JLabel();
    jLabel3 = new javax.swing.JLabel();
    jLabel4 = new javax.swing.JLabel();
    jLabel5 = new javax.swing.JLabel();
    Seat = new javax.swing.JLabel();
    jLabel7 = new javax.swing.JLabel();
    txtIdTicket = new javax.swing.JTextField();
    txtSchedule = new javax.swing.JTextField();
    txtSeat = new javax.swing.JTextField();
    txtClass = new javax.swing.JTextField();
    jScrollPane1 = new javax.swing.JScrollPane();
    tblTicket = new javax.swing.JTable();
    btnAddNew = new javax.swing.JButton();
    btnSave = new javax.swing.JButton();
    btnRemove = new javax.swing.JButton();
    btnSearch = new javax.swing.JButton();
```

```
txtSearch = new javax.swing.JTextField();
cmbTrain = new javax.swing.JComboBox<>();

setDefaultCloseOperation(javax.swing.WindowConstants.EXIT_ON_CLOSE);

jPanel1.setBackground(new java.awt.Color(153, 153, 255));

jLabel1.setFont(new java.awt.Font("Trebuchet MS", 3, 18)); // NOI18N
jLabel1.setText("DASHBOARD");

btnTrain.setText("Train");
btnTrain.addActionListener(new java.awt.event.ActionListener() {
    public void actionPerformed(java.awt.event.ActionEvent evt) {
        btnTrainActionPerformed(evt);
    }
});

btnPassenger.setText("Passenger");
btnPassenger.addActionListener(new java.awt.event.ActionListener() {
    public void actionPerformed(java.awt.event.ActionEvent evt) {
        btnPassengerActionPerformed(evt);
    }
});

btnTicket.setText("Ticket");
btnTicket.addActionListener(new java.awt.event.ActionListener() {
    public void actionPerformed(java.awt.event.ActionEvent evt) {
        btnTicketActionPerformed(evt);
    }
});

btnReservation.setText("Reservation");
btnReservation.addActionListener(new java.awt.event.ActionListener() {
    public void actionPerformed(java.awt.event.ActionEvent evt) {
        btnReservationActionPerformed(evt);
    }
});

btnTransaction.setText("Transaction");
btnTransaction.addActionListener(new java.awt.event.ActionListener() {
    public void actionPerformed(java.awt.event.ActionEvent evt) {
        btnTransactionActionPerformed(evt);
    }
});

btnExit.setBackground(new java.awt.Color(255, 51, 51));
btnExit.setText("Exit");
btnExit.addActionListener(new java.awt.event.ActionListener() {
    public void actionPerformed(java.awt.event.ActionEvent evt) {
```

```
            btnExitActionPerformed(evt);
        }
    });

    javax.swing.GroupLayout jPanel1Layout = new javax.swing.GroupLayout(jPanel1);
    jPanel1.setLayout(jPanel1Layout);
    jPanel1Layout.setHorizontalGroup(
        jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
        .addGroup(jPanel1Layout.createSequentialGroup()

.addGroup(jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                .addGroup(jPanel1Layout.createSequentialGroup()
                    .addGap(55, 55, 55)
                    .addComponent(jLabel1))
                .addGroup(jPanel1Layout.createSequentialGroup()
                    .addGap(63, 63, 63)

.addGroup(jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.TRAILING,
false)
                        .addComponent(btnReservation, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)
                        .addComponent(btnTransaction, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)
                        .addComponent(btnTicket, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)
                        .addComponent(btnPassenger, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)
                        .addComponent(btnTrain, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)
                        .addComponent(btnExit, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE))))
                .addContainerGap(77, Short.MAX_VALUE))
    );
    jPanel1Layout.setVerticalGroup(
        jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
        .addGroup(jPanel1Layout.createSequentialGroup()
            .addGap(31, 31, 31)
            .addComponent(jLabel1)
            .addGap(43, 43, 43)
            .addComponent(btnTrain)
            .addGap(18, 18, 18)
            .addComponent(btnPassenger)
            .addGap(18, 18, 18)
            .addComponent(btnTicket)
            .addGap(26, 26, 26)
            .addComponent(btnReservation)
            .addGap(26, 26, 26)
            .addComponent(btnTransaction)
            .addGap(75, 75, 75)
```

```
        .addComponent(btnExit)
        .addContainerGap(javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE))
);

jLabel2.setFont(new java.awt.Font("Trebuchet MS", 3, 18)); // NOI18N
jLabel2.setText("TICKET DETAILS");

jLabel3.setText("ID Ticket");

jLabel4.setText("Train Name");

jLabel5.setText("Schedule");

Seat.setText("Seat");

jLabel7.setText("Classs");

txtIdTicket.setEnabled(false);

tblTicket.setModel(new javax.swing.table.DefaultTableModel(
    new Object [][] {
        {null, null, null, null, null},
        {null, null, null, null, null},
        {null, null, null, null, null},
        {null, null, null, null, null}
    },
    new String [] {
        "ID Ticket", "Train Name", "Schedule", "Seat", "Class"
    }
));
tblTicket.addMouseListener(new java.awt.event.MouseAdapter() {
    public void mouseClicked(java.awt.event.MouseEvent evt) {
        tblTicketMouseClicked(evt);
    }
});
jScrollPane1.setViewportView(tblTicket);

btnAddNew.setBackground(new java.awt.Color(153, 153, 255));
btnAddNew.setText("Add New");
btnAddNew.addActionListener(new java.awt.event.ActionListener() {
    public void actionPerformed(java.awt.event.ActionEvent evt) {
        btnAddNewActionPerformed(evt);
    }
});

btnSave.setBackground(new java.awt.Color(153, 153, 255));
btnSave.setText("Save");
btnSave.addActionListener(new java.awt.event.ActionListener() {
    public void actionPerformed(java.awt.event.ActionEvent evt) {
```

```
            btnSaveActionPerformed(evt);
        }
    });

    btnRemove.setBackground(new java.awt.Color(153, 153, 255));
    btnRemove.setText("Remove");
    btnRemove.addActionListener(new java.awt.event.ActionListener() {
        public void actionPerformed(java.awt.event.ActionEvent evt) {
            btnRemoveActionPerformed(evt);
        }
    });

    btnSearch.setBackground(new java.awt.Color(153, 153, 255));
    btnSearch.setText("Search");
    btnSearch.addActionListener(new java.awt.event.ActionListener() {
        public void actionPerformed(java.awt.event.ActionEvent evt) {
            btnSearchActionPerformed(evt);
        }
    });

    cmbTrain.setModel(new javax.swing.DefaultComboBoxModel<>(new String[] { "Item 1", "Item
2", "Item 3", "Item 4" }));
    cmbTrain.addActionListener(new java.awt.event.ActionListener() {
        public void actionPerformed(java.awt.event.ActionEvent evt) {
            cmbTrainActionPerformed(evt);
        }
    });

    javax.swing.GroupLayout layout = new javax.swing.GroupLayout(getContentPane());
    getContentPane().setLayout(layout);
    layout.setHorizontalGroup(
        layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
        .addGroup(layout.createSequentialGroup()
            .addComponent(jPanel1, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE)
            .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                .addGroup(layout.createSequentialGroup()
                    .addGap(39, 39, 39)

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                        .addGroup(layout.createSequentialGroup()

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.TRAILING)
                                .addComponent(jLabel4)
                                .addComponent(jLabel3)
                                .addComponent(jLabel5)
                                .addComponent(Seat)
                                .addComponent(jLabel7))
                            .addGap(67, 67, 67)
```

```
.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING, false)
                            .addComponent(txtIdTicket, javax.swing.GroupLayout.PREFERRED_SIZE, 63,
javax.swing.GroupLayout.PREFERRED_SIZE)
                            .addComponent(txtSchedule, javax.swing.GroupLayout.DEFAULT_SIZE, 196,
Short.MAX_VALUE)
                            .addComponent(txtSeat)
                            .addComponent(txtClass)
                            .addComponent(cmbTrain, 0, javax.swing.GroupLayout.DEFAULT_SIZE,
Short.MAX_VALUE))
                        .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                            .addComponent(btnAddNew)
                            .addComponent(btnSave)
                            .addComponent(btnRemove))
                        .addGap(41, 41, 41))
                    .addGroup(layout.createSequentialGroup()
                        .addGap(21, 21, 21)
                        .addComponent(btnSearch)
                        .addGap(18, 18, 18)
                        .addComponent(txtSearch, javax.swing.GroupLayout.PREFERRED_SIZE, 263,
javax.swing.GroupLayout.PREFERRED_SIZE)
                        .addContainerGap(javax.swing.GroupLayout.DEFAULT_SIZE,
Short.MAX_VALUE))))
                .addGroup(javax.swing.GroupLayout.Alignment.TRAILING,
layout.createSequentialGroup()
                    .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED, 31,
Short.MAX_VALUE)

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                    .addGroup(javax.swing.GroupLayout.Alignment.TRAILING,
layout.createSequentialGroup()
                        .addComponent(jLabel2)
                        .addGap(183, 183, 183))
                    .addGroup(javax.swing.GroupLayout.Alignment.TRAILING,
layout.createSequentialGroup()
                        .addComponent(jScrollPane1, javax.swing.GroupLayout.PREFERRED_SIZE, 505,
javax.swing.GroupLayout.PREFERRED_SIZE)
                        .addContainerGap())))))
        );
        layout.setVerticalGroup(
            layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addComponent(jPanel1, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)
            .addGroup(layout.createSequentialGroup()
                .addContainerGap(31, Short.MAX_VALUE)
                .addComponent(jLabel2)
```

```
            .addGap(36, 36, 36)
            .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                .addComponent(jLabel3)
                .addComponent(txtIdTicket, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE))
            .addGap(18, 18, 18)
            .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                .addComponent(jLabel4)
                .addComponent(cmbTrain, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE))
            .addGap(18, 18, 18)
            .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                .addGroup(layout.createSequentialGroup()

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELINE)
                        .addComponent(jLabel5, javax.swing.GroupLayout.PREFERRED_SIZE, 32,
javax.swing.GroupLayout.PREFERRED_SIZE)
                        .addComponent(txtSchedule, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE))
                    .addGap(18, 18, 18)

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELINE)
                        .addComponent(Seat)
                        .addComponent(txtSeat, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE))
                    .addGap(18, 18, 18)

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELINE)
                        .addComponent(jLabel7)
                        .addComponent(txtClass, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE)
                        .addComponent(btnRemove)))
                .addGroup(layout.createSequentialGroup()
                    .addComponent(btnSave)
                    .addGap(18, 18, 18)
                    .addComponent(btnAddNew)))
            .addGap(58, 58, 58)
            .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELINE)
                .addComponent(btnSearch)
                .addComponent(txtSearch, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE))
            .addGap(17, 17, 17)
            .addComponent(jScrollPane1, javax.swing.GroupLayout.PREFERRED_SIZE, 110,
javax.swing.GroupLayout.PREFERRED_SIZE))
        );

        pack();
    }// </editor-fold>
```

```
private void btnTrainActionPerformed(java.awt.event.ActionEvent evt) {
    // TODO add your handling code here:
    java.awt.EventQueue.invokeLater(new Runnable() {
        public void run() {
            new FrmTrain().setVisible(true);
            dispose();
        }
    });
}

private void btnTicketActionPerformed(java.awt.event.ActionEvent evt) {
    // TODO add your handling code here:
    java.awt.EventQueue.invokeLater(new Runnable() {
        public void run() {
            new FrmTicket().setVisible(true);
            dispose();
        }
    });
}

private void btnSearchActionPerformed(java.awt.event.ActionEvent evt) {
    // TODO add your handling code here:
    search(txtSearch.getText());

}

private void btnPassengerActionPerformed(java.awt.event.ActionEvent evt) {
    // TODO add your handling code here:
    java.awt.EventQueue.invokeLater(new Runnable() {
        public void run() {
            new FrmPassenger().setVisible(true);
            dispose();
        }
    });
}

private void btnSaveActionPerformed(java.awt.event.ActionEvent evt) {
    // TODO add your handling code here:
    Ticket ticket = new Ticket();
    ticket.setIdticket(Integer.parseInt(txtIdTicket.getText()));
    ticket.setTrain((Train)cmbTrain.getSelectedItem());
    ticket.setSchedule(txtSchedule.getText());
    ticket.setSeat(txtSeat.getText());
    ticket.setClasss(txtClass.getText());
    ticket.save();

    txtIdTicket.setText(Integer.toString(ticket.getIdticket()));

    tampilkanData();
```

```
}

private void btnAddNewActionPerformed(java.awt.event.ActionEvent evt) {
    // TODO add your handling code here:
    kosongkanForm();
}

private void btnRemoveActionPerformed(java.awt.event.ActionEvent evt) {
    // TODO add your handling code here:
    DefaultTableModel model = (DefaultTableModel)tblTicket.getModel();
    int row = tblTicket.getSelectedRow();

    Ticket ticket = new Ticket().getById(Integer.parseInt(model.getValueAt(row, 0).toString()));
    ticket.delete();
    kosongkanForm();
    tampilkanData();
}

private void tblTicketMouseClicked(java.awt.event.MouseEvent evt) {
    // TODO add your handling code here:
     DefaultTableModel model = (DefaultTableModel)tblTicket.getModel();
    int row = tblTicket.getSelectedRow();

    Ticket ticket = new Ticket();

    ticket = ticket.getById(Integer.parseInt(model.getValueAt(row, 0).toString()));

    txtIdTicket.setText(String.valueOf(ticket.getIdticket()));
    cmbTrain.getModel().setSelectedItem(ticket.getTrain().getTrainname());
    txtSchedule.setText(ticket.getSchedule());
    txtSeat.setText(ticket.getSeat());
    txtClass.setText(ticket.getClasss());
}

private void btnReservationActionPerformed(java.awt.event.ActionEvent evt) {
    // TODO add your handling code here:
    java.awt.EventQueue.invokeLater(new Runnable() {
        public void run() {
            new FrmReservation().setVisible(true);
            dispose();
        }
    });
}

private void btnTransactionActionPerformed(java.awt.event.ActionEvent evt) {
    // TODO add your handling code here:
    java.awt.EventQueue.invokeLater(new Runnable() {
        public void run() {
            new FrmTransaction().setVisible(true);
```

```
            dispose();
        }
    });
}

private void btnExitActionPerformed(java.awt.event.ActionEvent evt) {
    // TODO add your handling code here:
    System.exit(0);
}

private void cmbTrainActionPerformed(java.awt.event.ActionEvent evt) {
    // TODO add your handling code here:
}

/**
 * @param args the command line arguments
 */
public static void main(String args[]) {
    /* Set the Nimbus look and feel */
    //<editor-fold defaultstate="collapsed" desc=" Look and feel setting code (optional) ">
    /* If Nimbus (introduced in Java SE 6) is not available, stay with the default look and feel.
     * For details see http://download.oracle.com/javase/tutorial/uiswing/lookandfeel/plaf.html
     */
    try {
        for (javax.swing.UIManager.LookAndFeelInfo info :
javax.swing.UIManager.getInstalledLookAndFeels()) {
            if ("Nimbus".equals(info.getName())) {
                javax.swing.UIManager.setLookAndFeel(info.getClassName());
                break;
            }
        }
    } catch (ClassNotFoundException ex) {

java.util.logging.Logger.getLogger(FrmTicket.class.getName()).log(java.util.logging.Level.SEVERE,
null, ex);
    } catch (InstantiationException ex) {

java.util.logging.Logger.getLogger(FrmTicket.class.getName()).log(java.util.logging.Level.SEVERE,
null, ex);
    } catch (IllegalAccessException ex) {

java.util.logging.Logger.getLogger(FrmTicket.class.getName()).log(java.util.logging.Level.SEVERE,
null, ex);
    } catch (javax.swing.UnsupportedLookAndFeelException ex) {

java.util.logging.Logger.getLogger(FrmTicket.class.getName()).log(java.util.logging.Level.SEVERE,
null, ex);
    }
    //</editor-fold>
```

```
        //</editor-fold>
        //</editor-fold>
        //</editor-fold>

        /* Create and display the form */
        java.awt.EventQueue.invokeLater(new Runnable() {
            public void run() {
                new FrmTicket().setVisible(true);
            }
        });
    }

    // Variables declaration - do not modify
    private javax.swing.JLabel Seat;
    private javax.swing.JButton btnAddNew;
    private javax.swing.JButton btnExit;
    private javax.swing.JButton btnPassenger;
    private javax.swing.JButton btnRemove;
    private javax.swing.JButton btnReservation;
    private javax.swing.JButton btnSave;
    private javax.swing.JButton btnSearch;
    private javax.swing.JButton btnTicket;
    private javax.swing.JButton btnTrain;
    private javax.swing.JButton btnTransaction;
    private javax.swing.JComboBox<String> cmbTrain;
    private javax.swing.JLabel jLabel1;
    private javax.swing.JLabel jLabel2;
    private javax.swing.JLabel jLabel3;
    private javax.swing.JLabel jLabel4;
    private javax.swing.JLabel jLabel5;
    private javax.swing.JLabel jLabel7;
    private javax.swing.JPanel jPanel1;
    private javax.swing.JScrollPane jScrollPane1;
    private javax.swing.JTable tblTicket;
    private javax.swing.JTextField txtClass;
    private javax.swing.JTextField txtIdTicket;
    private javax.swing.JTextField txtSchedule;
    private javax.swing.JTextField txtSearch;
    private javax.swing.JTextField txtSeat;
    // End of variables declaration
}
```

d. FrmReservation

```
/*
 * 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 frontend;
import backend.*;
import java.util.ArrayList;
import javax.swing.DefaultComboBoxModel;
import javax.swing.table.DefaultTableModel;
/**
 *
 * @author faradisha
 */
public class FrmReservation extends javax.swing.JFrame {

    /**
     * Creates new form FrmTrain
     */
    public FrmReservation() {
        initComponents();
        tampilkanData();
        kosongkanForm();
        tampilkanCmbKategori();
    }
    public void kosongkanForm() {
        txtIdReservation.setText("0");
        cmbPassenger.setSelectedIndex(0);
        cmbTrain.setSelectedIndex(0);
        txtDeparturedate.setText("");
        txtBookingdate.setText("");
    }

    public void tampilkanData() {
        String[] kolom = {"ID Reservation", "Passenger Name", "Train Name", "Departure Date",
"Booking Date"};
        ArrayList<Reservation> list = new Reservation().getAll();
        Object rowData[] = new Object[5];

        tblReservation.setModel(new DefaultTableModel(new Object[][] {}, kolom));

        for(int i = 0; i < list.size(); i++) {
            rowData[0] = list.get(i).getIdreservation();
            rowData[1] = list.get(i).getPassenger().getPassengername();
            rowData[2] = list.get(i).getTrain().getTrainname();
            rowData[3] = list.get(i).getDeparturedate();
            rowData[4] = list.get(i).getBookingdate();
```

```
            ((DefaultTableModel)tblReservation.getModel()).addRow(rowData);
        }
    }

    public void search(String keyword) {
        String[] kolom = {"ID Reservation", "Passenger Name", "Train Name", "Departure Date",
"Booking Date"};
        ArrayList<Reservation> list = new Reservation().search(keyword);
        Object rowData[] = new Object[5];

        tblReservation.setModel(new DefaultTableModel(new Object[][] {}, kolom));

       for(int i = 0; i < list.size(); i++) {
            rowData[0] = list.get(i).getIdreservation();
            rowData[1] = list.get(i).getPassenger().getPassengername();
            rowData[2] = list.get(i).getTrain().getTrainname();
            rowData[3] = list.get(i).getDeparturedate();
            rowData[4] = list.get(i).getBookingdate();

            ((DefaultTableModel)tblReservation.getModel()).addRow(rowData);
        }
    }

    public void tampilkanCmbKategori() {
        cmbPassenger.setModel(new DefaultComboBoxModel(new Passenger().getAll().toArray()));
        cmbTrain.setModel(new DefaultComboBoxModel(new Train().getAll().toArray()));
    }
    /**
     * This method is called from within the constructor to initialize the form.
     * WARNING: Do NOT modify this code. The content of this method is always
     * regenerated by the Form Editor.
     */
    @SuppressWarnings("unchecked")
    // <editor-fold defaultstate="collapsed" desc="Generated Code">
    private void initComponents() {

        jPanel1 = new javax.swing.JPanel();
        jLabel1 = new javax.swing.JLabel();
        btnTrain = new javax.swing.JButton();
        btnPassenger = new javax.swing.JButton();
        btnTicket = new javax.swing.JButton();
        btnReservation = new javax.swing.JButton();
        btnTransaction = new javax.swing.JButton();
        btnExit = new javax.swing.JButton();
        jLabel2 = new javax.swing.JLabel();
        jLabel3 = new javax.swing.JLabel();
        jLabel4 = new javax.swing.JLabel();
        jLabel5 = new javax.swing.JLabel();
        Seat = new javax.swing.JLabel();
```

```
jLabel7 = new javax.swing.JLabel();
txtIdReservation = new javax.swing.JTextField();
txtDeparturedate = new javax.swing.JTextField();
txtBookingdate = new javax.swing.JTextField();
jScrollPane1 = new javax.swing.JScrollPane();
tblReservation = new javax.swing.JTable();
btnAddNew = new javax.swing.JButton();
btnSave = new javax.swing.JButton();
btnRemove = new javax.swing.JButton();
btnSearch = new javax.swing.JButton();
txtSearch = new javax.swing.JTextField();
cmbPassenger = new javax.swing.JComboBox<>();
cmbTrain = new javax.swing.JComboBox<>();

setDefaultCloseOperation(javax.swing.WindowConstants.EXIT_ON_CLOSE);

jPanel1.setBackground(new java.awt.Color(153, 153, 255));

jLabel1.setFont(new java.awt.Font("Trebuchet MS", 3, 18)); // NOI18N
jLabel1.setText("DASHBOARD");

btnTrain.setText("Train");
btnTrain.addActionListener(new java.awt.event.ActionListener() {
    public void actionPerformed(java.awt.event.ActionEvent evt) {
        btnTrainActionPerformed(evt);
    }
});

btnPassenger.setText("Passenger");
btnPassenger.addActionListener(new java.awt.event.ActionListener() {
    public void actionPerformed(java.awt.event.ActionEvent evt) {
        btnPassengerActionPerformed(evt);
    }
});

btnTicket.setText("Ticket");
btnTicket.addActionListener(new java.awt.event.ActionListener() {
    public void actionPerformed(java.awt.event.ActionEvent evt) {
        btnTicketActionPerformed(evt);
    }
});

btnReservation.setText("Reservation");
btnReservation.addActionListener(new java.awt.event.ActionListener() {
    public void actionPerformed(java.awt.event.ActionEvent evt) {
        btnReservationActionPerformed(evt);
    }
});
```

```
        btnTransaction.setText("Transaction");
        btnTransaction.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                btnTransactionActionPerformed(evt);
            }
        });

        btnExit.setBackground(new java.awt.Color(255, 51, 51));
        btnExit.setText("Exit");
        btnExit.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                btnExitActionPerformed(evt);
            }
        });

        javax.swing.GroupLayout jPanel1Layout = new javax.swing.GroupLayout(jPanel1);
        jPanel1.setLayout(jPanel1Layout);
        jPanel1Layout.setHorizontalGroup(
            jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addGroup(jPanel1Layout.createSequentialGroup()

.addGroup(jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                    .addGroup(jPanel1Layout.createSequentialGroup()
                        .addGap(55, 55, 55)
                        .addComponent(jLabel1))
                    .addGroup(jPanel1Layout.createSequentialGroup()
                        .addGap(63, 63, 63)

.addGroup(jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                            .addComponent(btnExit, javax.swing.GroupLayout.PREFERRED_SIZE, 93,
javax.swing.GroupLayout.PREFERRED_SIZE)

.addGroup(jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.TRAILING,
false)
                                .addComponent(btnReservation, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)
                                .addComponent(btnTransaction, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)
                                .addComponent(btnTicket, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)
                                .addComponent(btnPassenger, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)
                                .addComponent(btnTrain, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)))))
                    .addContainerGap(77, Short.MAX_VALUE))
        );
        jPanel1Layout.setVerticalGroup(
            jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addGroup(jPanel1Layout.createSequentialGroup()
```

```
            .addGap(31, 31, 31)
            .addComponent(jLabel1)
            .addGap(43, 43, 43)
            .addComponent(btnTrain)
            .addGap(18, 18, 18)
            .addComponent(btnPassenger)
            .addGap(18, 18, 18)
            .addComponent(btnTicket)
            .addGap(26, 26, 26)
            .addComponent(btnReservation)
            .addGap(26, 26, 26)
            .addComponent(btnTransaction)
            .addGap(70, 70, 70)
            .addComponent(btnExit)
            .addContainerGap(javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE))
    );

    jLabel2.setFont(new java.awt.Font("Trebuchet MS", 3, 18)); // NOI18N
    jLabel2.setText("RESERVATION DETAILS");

    jLabel3.setText("ID Reservation");

    jLabel4.setText("Passenger Name");

    jLabel5.setText("Train Name");

    Seat.setText("Departure Date");

    jLabel7.setText("Booking Date");

    txtIdReservation.setEnabled(false);

    tblReservation.setModel(new javax.swing.table.DefaultTableModel(
        new Object [][] {
            {null, null, null, null, null},
            {null, null, null, null, null},
            {null, null, null, null, null},
            {null, null, null, null, null}
        },
        new String [] {
            "ID Ticket", "Passenger Name", "Train Name", "Departure Date", "Booking Date"
        }
    ));
    tblReservation.addMouseListener(new java.awt.event.MouseAdapter() {
        public void mouseClicked(java.awt.event.MouseEvent evt) {
            tblReservationMouseClicked(evt);
        }
    });
    jScrollPane1.setViewportView(tblReservation);
```

```
        btnAddNew.setBackground(new java.awt.Color(153, 153, 255));
        btnAddNew.setText("Add New");
        btnAddNew.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                btnAddNewActionPerformed(evt);
            }
        });

        btnSave.setBackground(new java.awt.Color(153, 153, 255));
        btnSave.setText("Save");
        btnSave.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                btnSaveActionPerformed(evt);
            }
        });

        btnRemove.setBackground(new java.awt.Color(153, 153, 255));
        btnRemove.setText("Remove");
        btnRemove.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                btnRemoveActionPerformed(evt);
            }
        });

        btnSearch.setBackground(new java.awt.Color(153, 153, 255));
        btnSearch.setText("Search");
        btnSearch.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                btnSearchActionPerformed(evt);
            }
        });

        cmbPassenger.setModel(new javax.swing.DefaultComboBoxModel<>(new String[] { "Item 1",
"Item 2", "Item 3", "Item 4" }));

        cmbTrain.setModel(new javax.swing.DefaultComboBoxModel<>(new String[] { "Item 1", "Item
2", "Item 3", "Item 4" }));

        javax.swing.GroupLayout layout = new javax.swing.GroupLayout(getContentPane());
        getContentPane().setLayout(layout);
        layout.setHorizontalGroup(
            layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addGroup(layout.createSequentialGroup()
                .addComponent(jPanel1, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE)
                .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                    .addGroup(layout.createSequentialGroup()
                        .addGap(39, 39, 39)
```

```
.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                    .addGroup(layout.createSequentialGroup()

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.TRAILING)
                            .addComponent(jLabel4)
                            .addComponent(jLabel3)
                            .addComponent(jLabel5)
                            .addComponent(Seat)
                            .addComponent(jLabel7))
                        .addGap(67, 67, 67)

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING, false)
                            .addComponent(txtIdReservation,
javax.swing.GroupLayout.PREFERRED_SIZE, 63, javax.swing.GroupLayout.PREFERRED_SIZE)
                            .addComponent(txtDeparturedate)
                            .addComponent(txtBookingdate)
                            .addComponent(cmbPassenger, 0, 196, Short.MAX_VALUE)
                            .addComponent(cmbTrain, 0, javax.swing.GroupLayout.DEFAULT_SIZE,
Short.MAX_VALUE))
                        .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                            .addComponent(btnAddNew)
                            .addComponent(btnSave)
                            .addComponent(btnRemove))
                        .addGap(41, 41, 41))
                    .addGroup(layout.createSequentialGroup()
                        .addGap(21, 21, 21)
                        .addComponent(btnSearch)
                        .addGap(18, 18, 18)
                        .addComponent(txtSearch, javax.swing.GroupLayout.PREFERRED_SIZE, 263,
javax.swing.GroupLayout.PREFERRED_SIZE)
                        .addContainerGap(javax.swing.GroupLayout.DEFAULT_SIZE,
Short.MAX_VALUE))))
                .addGroup(javax.swing.GroupLayout.Alignment.TRAILING,
layout.createSequentialGroup()
                    .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED, 31,
Short.MAX_VALUE)

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                    .addGroup(javax.swing.GroupLayout.Alignment.TRAILING,
layout.createSequentialGroup()
                        .addComponent(jLabel2)
                        .addGap(183, 183, 183))
                    .addGroup(javax.swing.GroupLayout.Alignment.TRAILING,
layout.createSequentialGroup()
                        .addComponent(jScrollPane1, javax.swing.GroupLayout.PREFERRED_SIZE,
```

```
505, javax.swing.GroupLayout.PREFERRED_SIZE)
                        .addContainerGap())))))
        );
        layout.setVerticalGroup(
            layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addComponent(jPanel1, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)
            .addGroup(layout.createSequentialGroup()
                .addContainerGap(31, Short.MAX_VALUE)
                .addComponent(jLabel2)
                .addGap(36, 36, 36)
                .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                    .addComponent(jLabel3)
                    .addComponent(txtIdReservation, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE))
                .addGap(18, 18, 18)
                .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                    .addComponent(jLabel4)
                    .addComponent(cmbPassenger, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE))
                .addGap(18, 18, 18)
                .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                    .addGroup(layout.createSequentialGroup()

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELINE)
                            .addComponent(jLabel5, javax.swing.GroupLayout.PREFERRED_SIZE, 32,
javax.swing.GroupLayout.PREFERRED_SIZE)
                            .addComponent(cmbTrain, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE))
                        .addGap(18, 18, 18)

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELINE)
                            .addComponent(Seat)
                            .addComponent(txtDeparturedate, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE))
                        .addGap(18, 18, 18)

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELINE)
                            .addComponent(jLabel7)
                            .addComponent(txtBookingdate, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE)
                            .addComponent(btnRemove)))
                        .addGroup(layout.createSequentialGroup()
                            .addComponent(btnSave)
                            .addGap(18, 18, 18)
                            .addComponent(btnAddNew)))
                .addGap(58, 58, 58)
                .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELINE)
                    .addComponent(btnSearch)
```

```
                .addComponent(txtSearch, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE))
            .addGap(17, 17, 17)
            .addComponent(jScrollPane1, javax.swing.GroupLayout.PREFERRED_SIZE, 110,
javax.swing.GroupLayout.PREFERRED_SIZE))
        );

        pack();
    }// </editor-fold>

    private void btnTrainActionPerformed(java.awt.event.ActionEvent evt) {
        // TODO add your handling code here:
        java.awt.EventQueue.invokeLater(new Runnable() {
            public void run() {
                new FrmTrain().setVisible(true);
                dispose();
            }
        });
    }

    private void btnTicketActionPerformed(java.awt.event.ActionEvent evt) {
        // TODO add your handling code here:
        java.awt.EventQueue.invokeLater(new Runnable() {
            public void run() {
                new FrmTicket().setVisible(true);
                dispose();
            }
        });
    }

    private void btnSearchActionPerformed(java.awt.event.ActionEvent evt) {
        // TODO add your handling code here:
        search(txtSearch.getText());

    }

    private void btnPassengerActionPerformed(java.awt.event.ActionEvent evt) {
        // TODO add your handling code here:
        java.awt.EventQueue.invokeLater(new Runnable() {
            public void run() {
                new FrmPassenger().setVisible(true);
                dispose();
            }
        });
    }

    private void btnSaveActionPerformed(java.awt.event.ActionEvent evt) {
        // TODO add your handling code here:
      Reservation rs = new Reservation();
```

```
        rs.setIdreservation(Integer.parseInt(txtIdReservation.getText()));
        rs.setPassenger((Passenger)cmbPassenger.getSelectedItem());
        rs.setTrain((Train)cmbTrain.getSelectedItem());
        rs.setDeparturedate(txtDeparturedate.getText());
        rs.setBookingdate(txtBookingdate.getText());
        rs.save();

        txtIdReservation.setText(Integer.toString(rs.getIdreservation()));

        tampilkanData();
    }

    private void btnAddNewActionPerformed(java.awt.event.ActionEvent evt) {
        // TODO add your handling code here:
        kosongkanForm();
    }

    private void btnRemoveActionPerformed(java.awt.event.ActionEvent evt) {
        // TODO add your handling code here:
        DefaultTableModel model = (DefaultTableModel)tblReservation.getModel();
        int row = tblReservation.getSelectedRow();

        Reservation reservation = new Reservation().getById(Integer.parseInt(model.getValueAt(row,
0).toString()));
        reservation.delete();
        kosongkanForm();
        tampilkanData();
    }

    private void tblReservationMouseClicked(java.awt.event.MouseEvent evt) {
        // TODO add your handling code here:
         DefaultTableModel model = (DefaultTableModel)tblReservation.getModel();
        int row = tblReservation.getSelectedRow();

        Reservation reservation = new Reservation();

        reservation = reservation.getById(Integer.parseInt(model.getValueAt(row, 0).toString()));

        txtIdReservation.setText(String.valueOf(reservation.getIdreservation()));
        cmbPassenger.getModel().setSelectedItem(reservation.getPassenger().getPassengername());
        cmbTrain.getModel().setSelectedItem(reservation.getTrain().getTrainname());
        txtDeparturedate.setText(reservation.getDeparturedate());
        txtBookingdate.setText(reservation.getBookingdate());
    }

    private void btnReservationActionPerformed(java.awt.event.ActionEvent evt) {
        // TODO add your handling code here:
        java.awt.EventQueue.invokeLater(new Runnable() {
            public void run() {
```

```
            new FrmReservation().setVisible(true);
            dispose();
        }
    });
}

private void btnTransactionActionPerformed(java.awt.event.ActionEvent evt) {
    // TODO add your handling code here:
    java.awt.EventQueue.invokeLater(new Runnable() {
        public void run() {
            new FrmTransaction().setVisible(true);
            dispose();
        }
    });
}

private void btnExitActionPerformed(java.awt.event.ActionEvent evt) {
    // TODO add your handling code here:
    System.exit(0);
}

/**
 * @param args the command line arguments
 */
public static void main(String args[]) {
    /* Set the Nimbus look and feel */
    //<editor-fold defaultstate="collapsed" desc=" Look and feel setting code (optional) ">
    /* If Nimbus (introduced in Java SE 6) is not available, stay with the default look and feel.
     * For details see http://download.oracle.com/javase/tutorial/uiswing/lookandfeel/plaf.html
     */
    try {
        for (javax.swing.UIManager.LookAndFeelInfo info :
javax.swing.UIManager.getInstalledLookAndFeels()) {
            if ("Nimbus".equals(info.getName())) {
                javax.swing.UIManager.setLookAndFeel(info.getClassName());
                break;
            }
        }
    } catch (ClassNotFoundException ex) {

java.util.logging.Logger.getLogger(FrmReservation.class.getName()).log(java.util.logging.Level.SEV
ERE, null, ex);
    } catch (InstantiationException ex) {

java.util.logging.Logger.getLogger(FrmReservation.class.getName()).log(java.util.logging.Level.SEV
ERE, null, ex);
    } catch (IllegalAccessException ex) {

java.util.logging.Logger.getLogger(FrmReservation.class.getName()).log(java.util.logging.Level.SEV
```

```
ERE, null, ex);
        } catch (javax.swing.UnsupportedLookAndFeelException ex) {

java.util.logging.Logger.getLogger(FrmReservation.class.getName()).log(java.util.logging.Level.SEV
ERE, null, ex);
        }
        //</editor-fold>
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        //</editor-fold>
        //</editor-fold>

        /* Create and display the form */
        java.awt.EventQueue.invokeLater(new Runnable() {
            public void run() {
                new FrmReservation().setVisible(true);
            }
        });
    }

    // Variables declaration - do not modify
    private javax.swing.JLabel Seat;
    private javax.swing.JButton btnAddNew;
    private javax.swing.JButton btnExit;
    private javax.swing.JButton btnPassenger;
    private javax.swing.JButton btnRemove;
    private javax.swing.JButton btnReservation;
    private javax.swing.JButton btnSave;
    private javax.swing.JButton btnSearch;
    private javax.swing.JButton btnTicket;
    private javax.swing.JButton btnTrain;
    private javax.swing.JButton btnTransaction;
    private javax.swing.JComboBox<String> cmbPassenger;
    private javax.swing.JComboBox<String> cmbTrain;
    private javax.swing.JLabel jLabel1;
    private javax.swing.JLabel jLabel2;
    private javax.swing.JLabel jLabel3;
    private javax.swing.JLabel jLabel4;
    private javax.swing.JLabel jLabel5;
    private javax.swing.JLabel jLabel7;
    private javax.swing.JPanel jPanel1;
    private javax.swing.JScrollPane jScrollPane1;
    private javax.swing.JTable tblReservation;
    private javax.swing.JTextField txtBookingdate;
    private javax.swing.JTextField txtDeparturedate;
    private javax.swing.JTextField txtIdReservation;
```

```
    private javax.swing.JTextField txtSearch;
    // End of variables declaration
}
```

e. FrmTransaction

```
/*
 * 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 frontend;
import backend.*;
import java.util.ArrayList;
import javax.swing.table.DefaultTableModel;
import javax.swing.DefaultComboBoxModel;
/**
 *
 * @author faradisha
 */
public class FrmTransaction extends javax.swing.JFrame {

    /**
     * Creates new form FrmTrain
     */
    public FrmTransaction() {
        initComponents();
        tampilkanData();
        kosongkanForm();
        tampilkanCmbKategori();
    }
    public void kosongkanForm() {
        txtIdTransaction.setText("0");
        txtPayDate.setText("");
        txtQtyTicket.setText("");
        txtTicketPrice.setText("");
        txtTotalPay.setText("");
        cmbReservation.setSelectedIndex(0);
    }

    public void tampilkanData() {
        String[] kolom = {"ID Transaction", "Pay Date", "Quantity Ticket", "Ticket Price", "Total Pay",
"Reservation"};
        ArrayList<Transaction> list = new Transaction().getAll();
        Object rowData[] = new Object[7];

        tblTransaction.setModel(new DefaultTableModel(new Object[][] {}, kolom));
```

```
        for(Transaction k : list) {
            rowData[0] = k.getIdtransaction();
            rowData[1] = k.getPaydate();
            rowData[2] = k.getQtyticket();
            rowData[3] = k.getTicketprice();
            rowData[4] = k.getTotalpay();
            rowData[5] = k.getReservation();

            ((DefaultTableModel)tblTransaction.getModel()).addRow(rowData);
        }
    }

    public void search(String keyword) {
        String[] kolom = {"ID Transaction", "Pay Date", "Quantity Ticket", "Ticket Price", "Total Pay",
"Reservation"};
        ArrayList<Transaction> list = new Transaction().search(keyword);
        Object rowData[] = new Object[7];

        tblTransaction.setModel(new DefaultTableModel(new Object[][] {}, kolom));

        for(Transaction k : list) {
            rowData[0] = k.getIdtransaction();
            rowData[1] = k.getPaydate();
            rowData[2] = k.getQtyticket();
            rowData[3] = k.getTicketprice();
            rowData[4] = k.getTotalpay();
            rowData[5] = k.getReservation();

            ((DefaultTableModel)tblTransaction.getModel()).addRow(rowData);
        }
    }

    public void tampilkanCmbKategori() {
        cmbReservation.setModel(new DefaultComboBoxModel(new Reservation().getAll().toArray()));
    }


    /**
     * This method is called from within the constructor to initialize the form.
     * WARNING: Do NOT modify this code. The content of this method is always
     * regenerated by the Form Editor.
     */
    @SuppressWarnings("unchecked")
    // <editor-fold defaultstate="collapsed" desc="Generated Code">
    private void initComponents() {

        jPanel1 = new javax.swing.JPanel();
        jLabel1 = new javax.swing.JLabel();
        btnTrain = new javax.swing.JButton();
```

```
        btnPassenger = new javax.swing.JButton();
        btnTicket = new javax.swing.JButton();
        btnReservation = new javax.swing.JButton();
        btnTransaction = new javax.swing.JButton();
        btnExit = new javax.swing.JButton();
        jLabel2 = new javax.swing.JLabel();
        jLabel3 = new javax.swing.JLabel();
        jLabel4 = new javax.swing.JLabel();
        jLabel5 = new javax.swing.JLabel();
        jLabel6 = new javax.swing.JLabel();
        jLabel7 = new javax.swing.JLabel();
        jLabel8 = new javax.swing.JLabel();
        txtIdTransaction = new javax.swing.JTextField();
        txtPayDate = new javax.swing.JTextField();
        txtQtyTicket = new javax.swing.JTextField();
        txtTicketPrice = new javax.swing.JTextField();
        txtTotalPay = new javax.swing.JTextField();
        jScrollPane1 = new javax.swing.JScrollPane();
        tblTransaction = new javax.swing.JTable();
        btnAddNew = new javax.swing.JButton();
        btnSave = new javax.swing.JButton();
        btnRemove = new javax.swing.JButton();
        btnSearch = new javax.swing.JButton();
        txtSearch = new javax.swing.JTextField();
        cmbReservation = new javax.swing.JComboBox<>();

        setDefaultCloseOperation(javax.swing.WindowConstants.EXIT_ON_CLOSE);

        jPanel1.setBackground(new java.awt.Color(153, 153, 255));

        jLabel1.setFont(new java.awt.Font("Trebuchet MS", 3, 18)); // NOI18N
        jLabel1.setText("DASHBOARD");

        btnTrain.setText("Train");
        btnTrain.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                btnTrainActionPerformed(evt);
            }
        });

        btnPassenger.setText("Passenger");
        btnPassenger.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                btnPassengerActionPerformed(evt);
            }
        });

        btnTicket.setText("Ticket");
        btnTicket.addActionListener(new java.awt.event.ActionListener() {
```

```
        public void actionPerformed(java.awt.event.ActionEvent evt) {
            btnTicketActionPerformed(evt);
        }
    });

    btnReservation.setText("Reservation");
    btnReservation.addActionListener(new java.awt.event.ActionListener() {
        public void actionPerformed(java.awt.event.ActionEvent evt) {
            btnReservationActionPerformed(evt);
        }
    });

    btnTransaction.setText("Transaction");
    btnTransaction.addActionListener(new java.awt.event.ActionListener() {
        public void actionPerformed(java.awt.event.ActionEvent evt) {
            btnTransactionActionPerformed(evt);
        }
    });

    btnExit.setBackground(new java.awt.Color(255, 51, 51));
    btnExit.setText("Exit");
    btnExit.addActionListener(new java.awt.event.ActionListener() {
        public void actionPerformed(java.awt.event.ActionEvent evt) {
            btnExitActionPerformed(evt);
        }
    });

    javax.swing.GroupLayout jPanel1Layout = new javax.swing.GroupLayout(jPanel1);
    jPanel1.setLayout(jPanel1Layout);
    jPanel1Layout.setHorizontalGroup(
        jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
        .addGroup(jPanel1Layout.createSequentialGroup()

.addGroup(jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                .addGroup(jPanel1Layout.createSequentialGroup()
                    .addGap(55, 55, 55)
                    .addComponent(jLabel1))
                .addGroup(jPanel1Layout.createSequentialGroup()
                    .addGap(63, 63, 63)

.addGroup(jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                        .addComponent(btnExit, javax.swing.GroupLayout.PREFERRED_SIZE, 93,
javax.swing.GroupLayout.PREFERRED_SIZE)

.addGroup(jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.TRAILING,
false)
                        .addComponent(btnReservation, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)
                        .addComponent(btnTransaction, javax.swing.GroupLayout.DEFAULT_SIZE,
```

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javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)
                        .addComponent(btnTicket, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)
                        .addComponent(btnPassenger, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)
                        .addComponent(btnTrain, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)))))
            .addContainerGap(77, Short.MAX_VALUE))
      );
      jPanel1Layout.setVerticalGroup(
         jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
         .addGroup(jPanel1Layout.createSequentialGroup()
            .addGap(31, 31, 31)
            .addComponent(jLabel1)
            .addGap(43, 43, 43)
            .addComponent(btnTrain)
            .addGap(18, 18, 18)
            .addComponent(btnPassenger)
            .addGap(18, 18, 18)
            .addComponent(btnTicket)
            .addGap(26, 26, 26)
            .addComponent(btnReservation)
            .addGap(26, 26, 26)
            .addComponent(btnTransaction)
            .addGap(78, 78, 78)
            .addComponent(btnExit)
            .addContainerGap(javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE))
      );

      jLabel2.setFont(new java.awt.Font("Trebuchet MS", 3, 18)); // NOI18N
      jLabel2.setText("TRANSACTION DETAILS");

      jLabel3.setText("ID Transaction");

      jLabel4.setText("Pay Date");

      jLabel5.setText("Quantity Ticket");

      jLabel6.setText("Ticket Price");

      jLabel7.setText("Total Pay");

      jLabel8.setText("Reservation");

      txtIdTransaction.setEnabled(false);

      txtPayDate.addActionListener(new java.awt.event.ActionListener() {
         public void actionPerformed(java.awt.event.ActionEvent evt) {
            txtPayDateActionPerformed(evt);
```

```
    }
});

txtTicketPrice.addActionListener(new java.awt.event.ActionListener() {
    public void actionPerformed(java.awt.event.ActionEvent evt) {
        txtTicketPriceActionPerformed(evt);
    }
});

tblTransaction.setModel(new javax.swing.table.DefaultTableModel(
    new Object [][] {
        {null, null, null, null, null, null},
        {null, null, null, null, null, null},
        {null, null, null, null, null, null},
        {null, null, null, null, null, null}
    },
    new String [] {
        "ID Transaction", "Pay Date", "Quantity Ticket", "Ticket Price", "Total Pay", "Reservation"
    }
));
tblTransaction.addMouseListener(new java.awt.event.MouseAdapter() {
    public void mouseClicked(java.awt.event.MouseEvent evt) {
        tblTransactionMouseClicked(evt);
    }
});
jScrollPane1.setViewportView(tblTransaction);

btnAddNew.setBackground(new java.awt.Color(153, 153, 255));
btnAddNew.setText("Add New");
btnAddNew.addActionListener(new java.awt.event.ActionListener() {
    public void actionPerformed(java.awt.event.ActionEvent evt) {
        btnAddNewActionPerformed(evt);
    }
});

btnSave.setBackground(new java.awt.Color(153, 153, 255));
btnSave.setText("Save");
btnSave.addActionListener(new java.awt.event.ActionListener() {
    public void actionPerformed(java.awt.event.ActionEvent evt) {
        btnSaveActionPerformed(evt);
    }
});

btnRemove.setBackground(new java.awt.Color(153, 153, 255));
btnRemove.setText("Remove");
btnRemove.addActionListener(new java.awt.event.ActionListener() {
    public void actionPerformed(java.awt.event.ActionEvent evt) {
        btnRemoveActionPerformed(evt);
    }
```

```
        });

        btnSearch.setBackground(new java.awt.Color(153, 153, 255));
        btnSearch.setText("Search");
        btnSearch.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                btnSearchActionPerformed(evt);
            }
        });

        cmbReservation.setModel(new javax.swing.DefaultComboBoxModel<>(new String[] { "Item 1",
"Item 2", "Item 3", "Item 4" }));

        javax.swing.GroupLayout layout = new javax.swing.GroupLayout(getContentPane());
        getContentPane().setLayout(layout);
        layout.setHorizontalGroup(
            layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addGroup(layout.createSequentialGroup()
                .addComponent(jPanel1, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE)
                .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                    .addGroup(layout.createSequentialGroup()
                        .addGap(39, 39, 39)

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                            .addGroup(layout.createSequentialGroup()

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.TRAILING)
                                    .addComponent(jLabel4)
                                    .addComponent(jLabel3)
                                    .addComponent(jLabel5)
                                    .addComponent(jLabel6)
                                    .addComponent(jLabel7)
                                    .addComponent(jLabel8))
                                .addGap(67, 67, 67)

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING, false)
                                    .addComponent(txtIdTransaction,
javax.swing.GroupLayout.PREFERRED_SIZE, 63, javax.swing.GroupLayout.PREFERRED_SIZE)
                                    .addComponent(txtPayDate, javax.swing.GroupLayout.DEFAULT_SIZE, 196,
Short.MAX_VALUE)
                                    .addComponent(txtQtyTicket)
                                    .addComponent(txtTicketPrice)
                                    .addComponent(txtTotalPay)
                                    .addComponent(cmbReservation,
javax.swing.GroupLayout.Alignment.TRAILING, 0, javax.swing.GroupLayout.DEFAULT_SIZE,
Short.MAX_VALUE))
                                .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)
```

```
.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                            .addComponent(btnAddNew)
                            .addComponent(btnSave)
                            .addComponent(btnRemove))
                        .addGap(41, 41, 41))
                    .addGroup(layout.createSequentialGroup()
                        .addGap(21, 21, 21)
                        .addComponent(btnSearch)
                        .addGap(18, 18, 18)
                        .addComponent(txtSearch, javax.swing.GroupLayout.PREFERRED_SIZE, 263,
javax.swing.GroupLayout.PREFERRED_SIZE)
                        .addContainerGap(javax.swing.GroupLayout.DEFAULT_SIZE,
Short.MAX_VALUE))))
                .addGroup(javax.swing.GroupLayout.Alignment.TRAILING,
layout.createSequentialGroup()
                    .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED, 31,
Short.MAX_VALUE)

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                    .addGroup(javax.swing.GroupLayout.Alignment.TRAILING,
layout.createSequentialGroup()
                        .addComponent(jLabel2)
                        .addGap(183, 183, 183))
                    .addGroup(javax.swing.GroupLayout.Alignment.TRAILING,
layout.createSequentialGroup()
                        .addComponent(jScrollPane1, javax.swing.GroupLayout.PREFERRED_SIZE,
505, javax.swing.GroupLayout.PREFERRED_SIZE)
                        .addContainerGap())))))
        );
        layout.setVerticalGroup(
            layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addComponent(jPanel1, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)
            .addGroup(layout.createSequentialGroup()
                .addContainerGap(27, Short.MAX_VALUE)
                .addComponent(jLabel2)
                .addGap(40, 40, 40)
                .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                    .addComponent(jLabel3)
                    .addComponent(txtIdTransaction, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE))
                .addGap(18, 18, 18)
                .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELINE)
                    .addComponent(jLabel4)
                    .addComponent(txtPayDate, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE))
                .addGap(18, 18, 18)
                .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
```

```
                .addGroup(layout.createSequentialGroup()

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELINE)
                    .addComponent(jLabel5, javax.swing.GroupLayout.PREFERRED_SIZE, 32,
javax.swing.GroupLayout.PREFERRED_SIZE)
                    .addComponent(txtQtyTicket, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE))
                .addGap(18, 18, 18)

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELINE)
                    .addComponent(jLabel6)
                    .addComponent(txtTicketPrice, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE))
                .addGap(18, 18, 18)

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELINE)
                    .addComponent(jLabel7)
                    .addComponent(txtTotalPay, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE)
                    .addComponent(btnRemove))
                .addGap(18, 18, 18)

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELINE)
                    .addComponent(jLabel8)
                    .addComponent(cmbReservation, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE)))
                .addGroup(layout.createSequentialGroup()
                    .addComponent(btnSave)
                    .addGap(18, 18, 18)
                    .addComponent(btnAddNew)))
            .addGap(18, 18, 18)
            .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELINE)
                .addComponent(btnSearch)
                .addComponent(txtSearch, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE))
            .addGap(17, 17, 17)
            .addComponent(jScrollPane1, javax.swing.GroupLayout.PREFERRED_SIZE, 110,
javax.swing.GroupLayout.PREFERRED_SIZE))
        );

        pack();
    }// </editor-fold>

    private void btnTrainActionPerformed(java.awt.event.ActionEvent evt) {
        // TODO add your handling code here:
        java.awt.EventQueue.invokeLater(new Runnable() {
            public void run() {
                new FrmTrain().setVisible(true);
                dispose();
```

```
        }
    });
}

private void btnTicketActionPerformed(java.awt.event.ActionEvent evt) {
    // TODO add your handling code here:
     java.awt.EventQueue.invokeLater(new Runnable() {
        public void run() {
            new FrmTicket().setVisible(true);
            dispose();
        }
    });
}

private void txtPayDateActionPerformed(java.awt.event.ActionEvent evt) {
    // TODO add your handling code here:
}

private void btnSearchActionPerformed(java.awt.event.ActionEvent evt) {
    // TODO add your handling code here:
    search(txtSearch.getText());

}

private void btnPassengerActionPerformed(java.awt.event.ActionEvent evt) {
    // TODO add your handling code here:
    java.awt.EventQueue.invokeLater(new Runnable() {
        public void run() {
            new FrmPassenger().setVisible(true);
            dispose();
        }
    });
}

private void btnSaveActionPerformed(java.awt.event.ActionEvent evt) {
    // TODO add your handling code here:
    Transaction transaction = new Transaction();
    transaction.setIdtransaction(Integer.parseInt(txtIdTransaction.getText()));
    transaction.setPaydate(txtPayDate.getText());
    transaction.setQtyticket(Integer.parseInt(txtQtyTicket.getText()));
    transaction.setTicketprice(Integer.parseInt(txtTicketPrice.getText()));
    transaction.setTotalpay(Integer.parseInt(txtTotalPay.getText()));
    transaction.setReservation((Reservation)cmbReservation.getSelectedItem());
    transaction.save();

    txtIdTransaction.setText(Integer.toString(transaction.getIdtransaction()));

    tampilkanData();
}
```

```
    private void btnAddNewActionPerformed(java.awt.event.ActionEvent evt) {
        // TODO add your handling code here:
        kosongkanForm();
    }

    private void btnRemoveActionPerformed(java.awt.event.ActionEvent evt) {
        // TODO add your handling code here:
        DefaultTableModel model = (DefaultTableModel)tblTransaction.getModel();
        int row = tblTransaction.getSelectedRow();

        Transaction transaction = new Transaction().getById(Integer.parseInt(model.getValueAt(row,
0).toString()));
        transaction.delete();
        kosongkanForm();
        tampilkanData();
    }

    private void tblTransactionMouseClicked(java.awt.event.MouseEvent evt) {
        // TODO add your handling code here:
         DefaultTableModel model = (DefaultTableModel)tblTransaction.getModel();
        int row = tblTransaction.getSelectedRow();
        Transaction transaction = new Transaction();

        transaction = transaction.getById(Integer.parseInt(model.getValueAt(row, 0).toString()));

        txtIdTransaction.setText(String.valueOf(transaction.getIdtransaction()));
        txtPayDate.setText(transaction.getPaydate());
        txtQtyTicket.setText(String.valueOf(transaction.getQtyticket()));
        txtTicketPrice.setText(String.valueOf(transaction.getTicketprice()));
        txtTotalPay.setText(String.valueOf(transaction.getTotalpay()));
        cmbReservation.getModel().setSelectedItem(transaction.getReservation().getBookingdate());
    }

    private void btnReservationActionPerformed(java.awt.event.ActionEvent evt) {
        // TODO add your handling code here:
        java.awt.EventQueue.invokeLater(new Runnable() {
            public void run() {
                new FrmReservation().setVisible(true);
                dispose();
            }
        });
    }

    private void txtTicketPriceActionPerformed(java.awt.event.ActionEvent evt) {
        // TODO add your handling code here:
    }

    private void btnTransactionActionPerformed(java.awt.event.ActionEvent evt) {
```

```
        // TODO add your handling code here:
        java.awt.EventQueue.invokeLater(new Runnable() {
            public void run() {
                new FrmTransaction().setVisible(true);
                dispose();
            }
        });
    }

    private void btnExitActionPerformed(java.awt.event.ActionEvent evt) {
        // TODO add your handling code here:
        System.exit(0);
    }

    /**
     * @param args the command line arguments
     */
    public static void main(String args[]) {
        /* Set the Nimbus look and feel */
        //<editor-fold defaultstate="collapsed" desc=" Look and feel setting code (optional) ">
        /* If Nimbus (introduced in Java SE 6) is not available, stay with the default look and feel.
         * For details see http://download.oracle.com/javase/tutorial/uiswing/lookandfeel/plaf.html
         */
        try {
            for (javax.swing.UIManager.LookAndFeelInfo info :
javax.swing.UIManager.getInstalledLookAndFeels()) {
                if ("Nimbus".equals(info.getName())) {
                    javax.swing.UIManager.setLookAndFeel(info.getClassName());
                    break;
                }
            }
        } catch (ClassNotFoundException ex) {

java.util.logging.Logger.getLogger(FrmTransaction.class.getName()).log(java.util.logging.Level.SEV
ERE, null, ex);
        } catch (InstantiationException ex) {

java.util.logging.Logger.getLogger(FrmTransaction.class.getName()).log(java.util.logging.Level.SEV
ERE, null, ex);
        } catch (IllegalAccessException ex) {

java.util.logging.Logger.getLogger(FrmTransaction.class.getName()).log(java.util.logging.Level.SEV
ERE, null, ex);
        } catch (javax.swing.UnsupportedLookAndFeelException ex) {

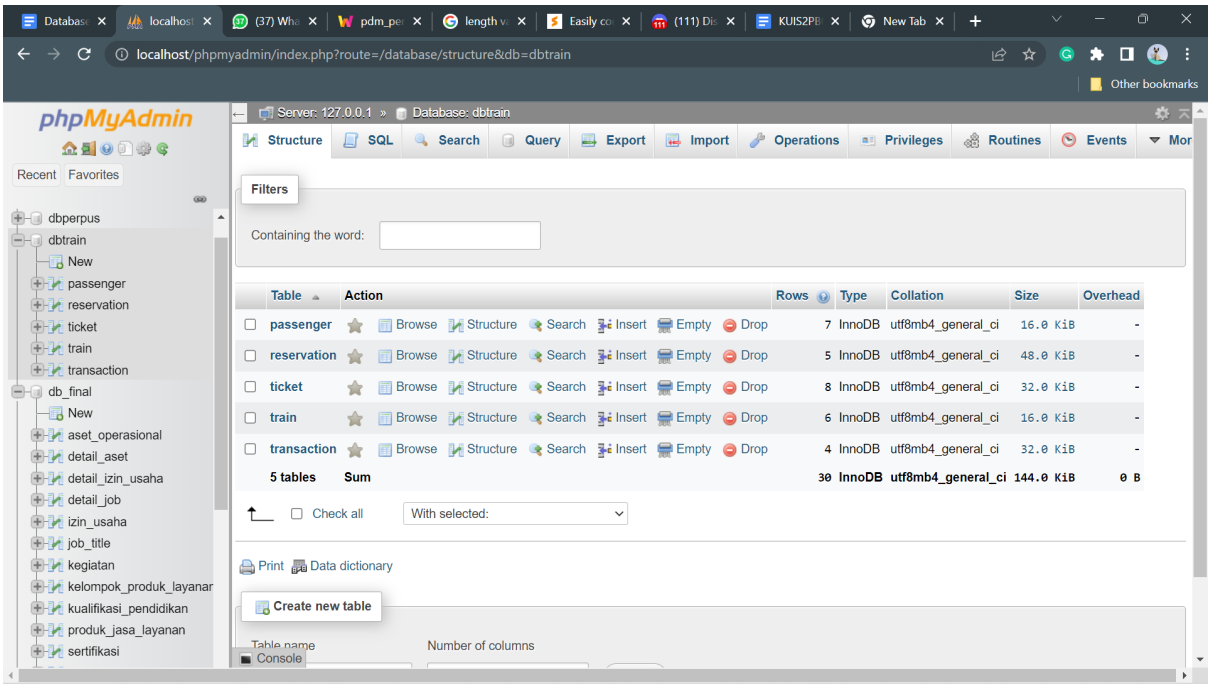
java.util.logging.Logger.getLogger(FrmTransaction.class.getName()).log(java.util.logging.Level.SEV
ERE, null, ex);
        }
        //</editor-fold>
```

```
        //</editor-fold>

        /* Create and display the form */
        java.awt.EventQueue.invokeLater(new Runnable() {
            public void run() {
                new FrmTransaction().setVisible(true);
            }
        });
    }

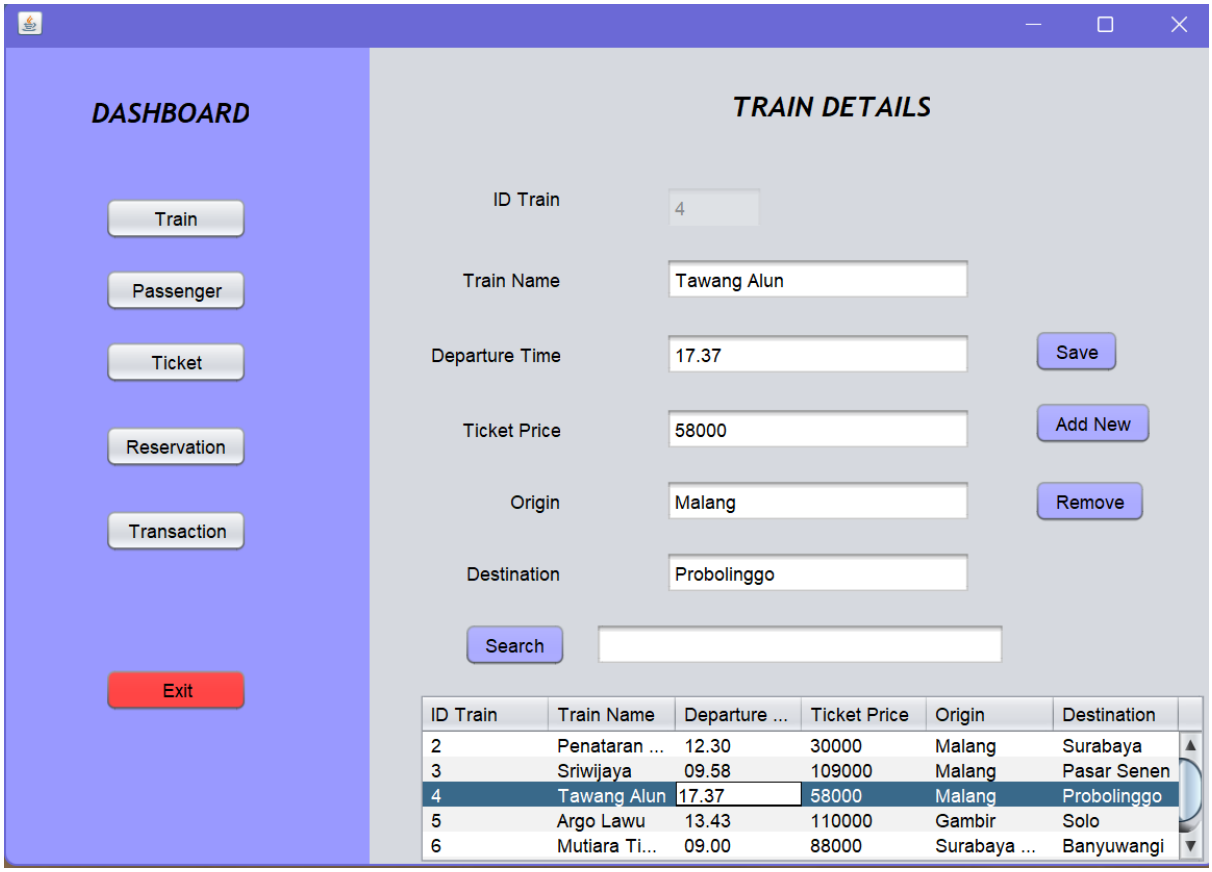
    // Variables declaration - do not modify
    private javax.swing.JButton btnAddNew;
    private javax.swing.JButton btnExit;
    private javax.swing.JButton btnPassenger;
    private javax.swing.JButton btnRemove;
    private javax.swing.JButton btnReservation;
    private javax.swing.JButton btnSave;
    private javax.swing.JButton btnSearch;
    private javax.swing.JButton btnTicket;
    private javax.swing.JButton btnTrain;
    private javax.swing.JButton btnTransaction;
    private javax.swing.JComboBox<String> cmbReservation;
    private javax.swing.JLabel jLabel1;
    private javax.swing.JLabel jLabel2;
    private javax.swing.JLabel jLabel3;
    private javax.swing.JLabel jLabel4;
    private javax.swing.JLabel jLabel5;
    private javax.swing.JLabel jLabel6;
    private javax.swing.JLabel jLabel7;
    private javax.swing.JLabel jLabel8;
    private javax.swing.JPanel jPanel1;
    private javax.swing.JScrollPane jScrollPane1;
    private javax.swing.JTable tblTransaction;
    private javax.swing.JTextField txtIdTransaction;
    private javax.swing.JTextField txtPayDate;
    private javax.swing.JTextField txtQtyTicket;
    private javax.swing.JTextField txtSearch;
    private javax.swing.JTextField txtTicketPrice;
    private javax.swing.JTextField txtTotalPay;
    // End of variables declaration
}
```

Database

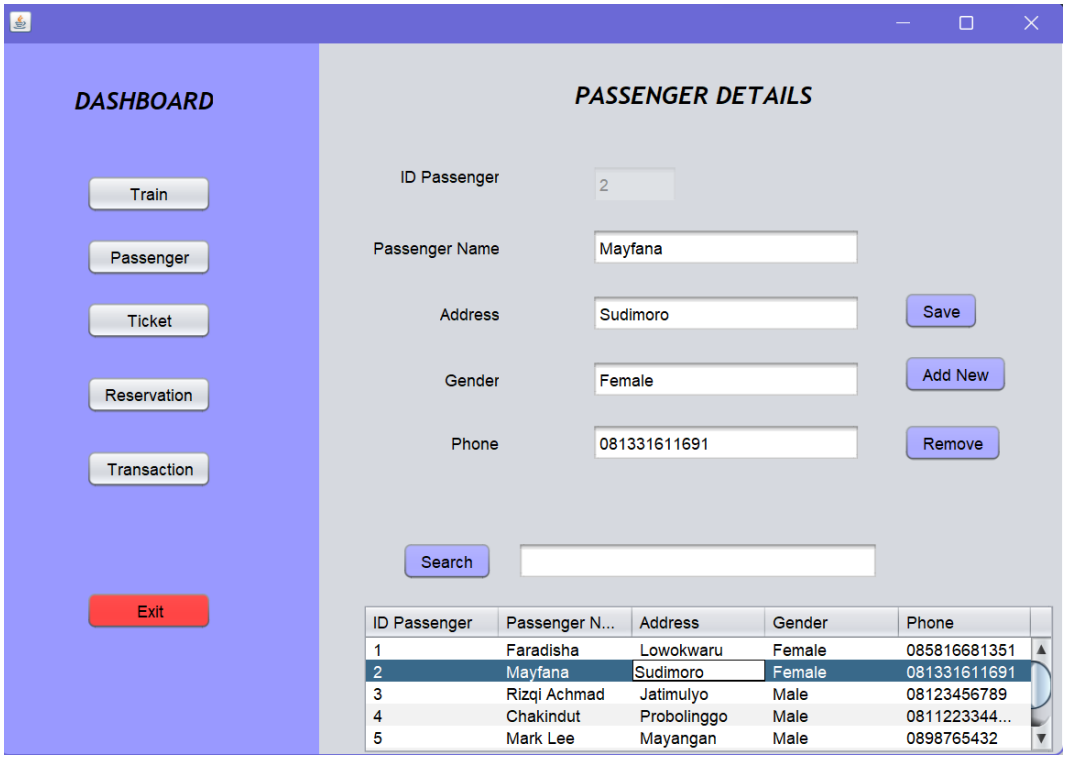


Output

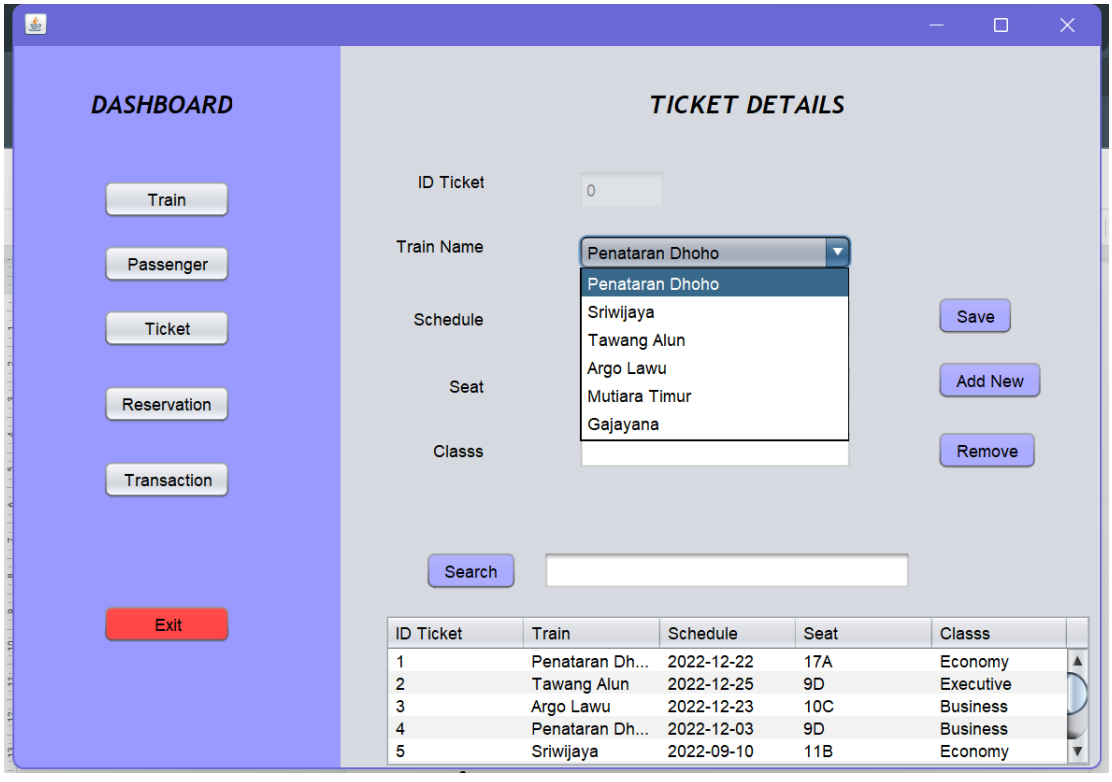
1. **Train**



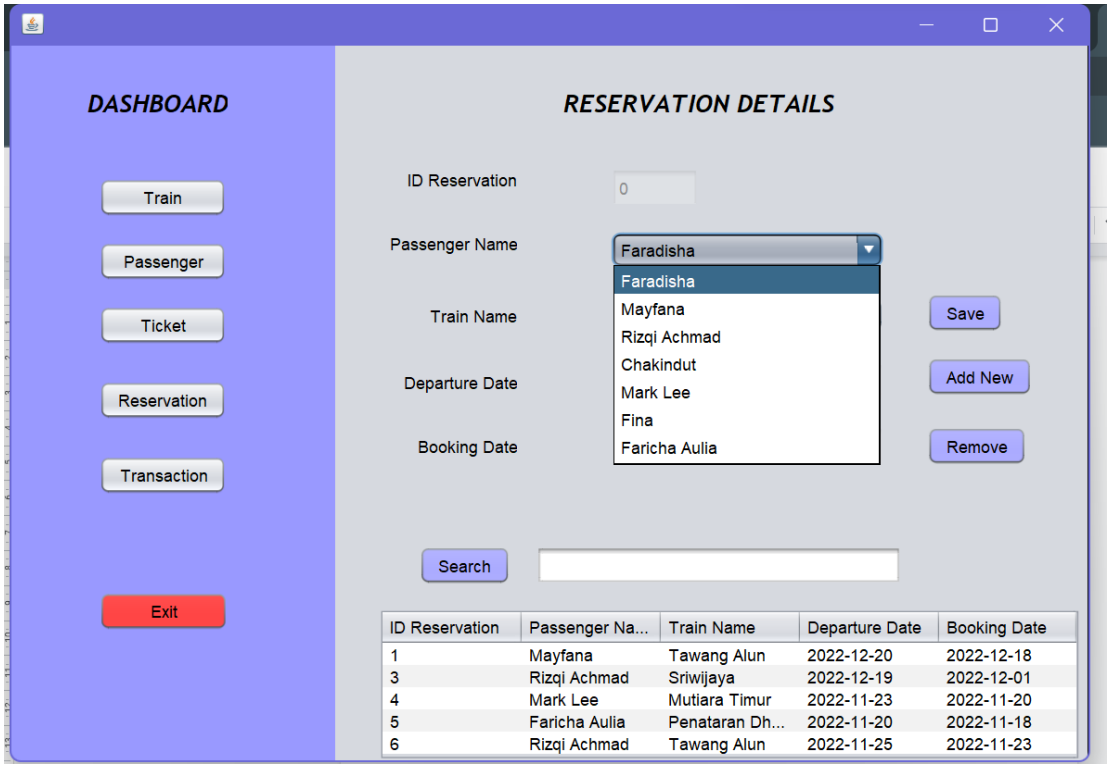
2. Passenger

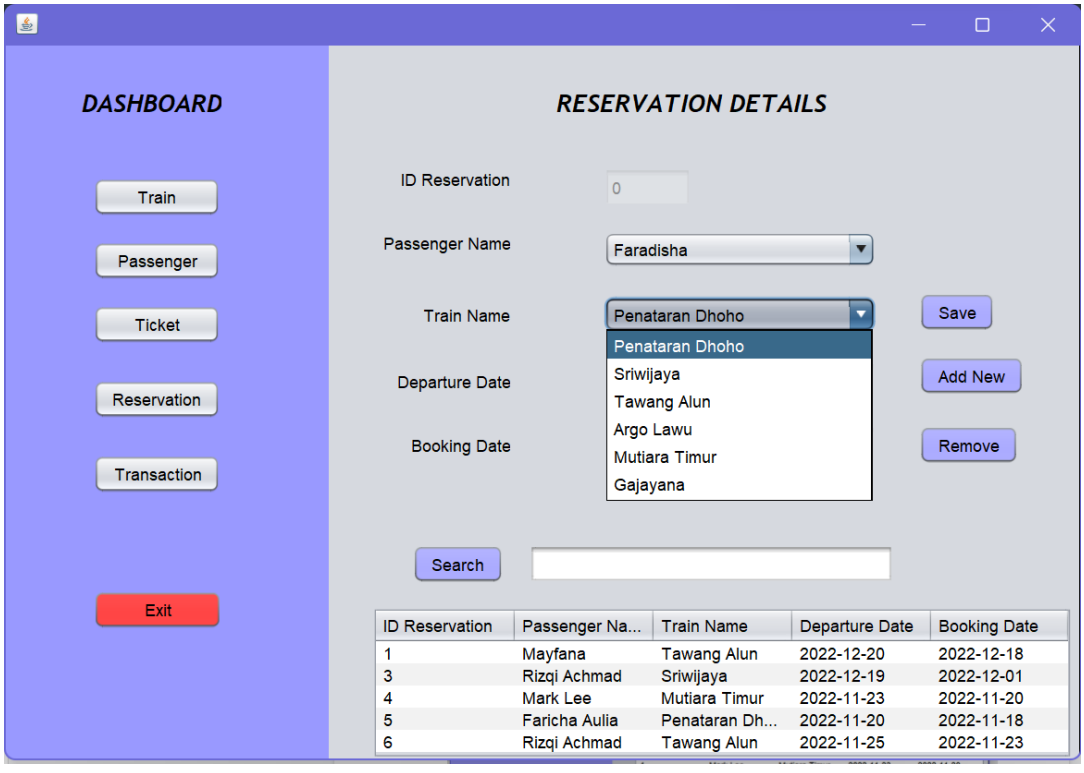


3. Ticket

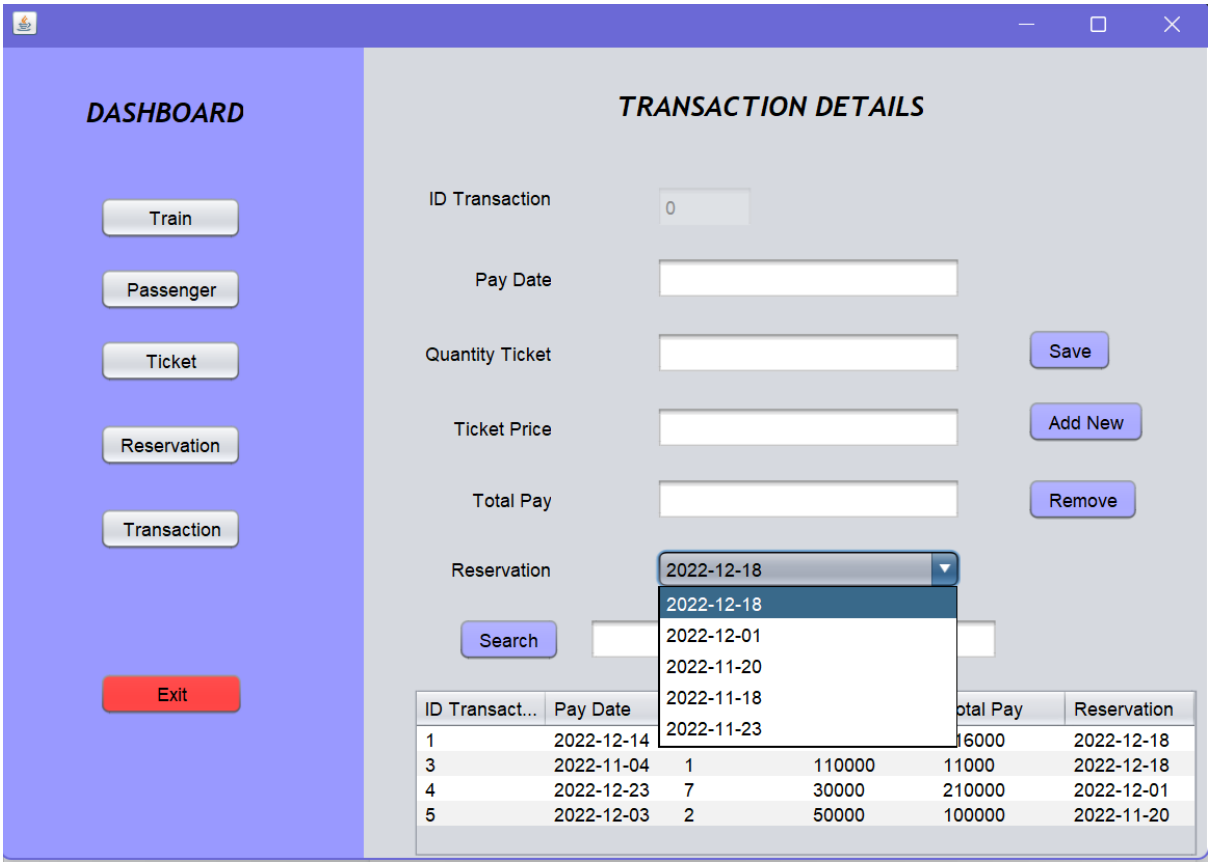


4. Reservation

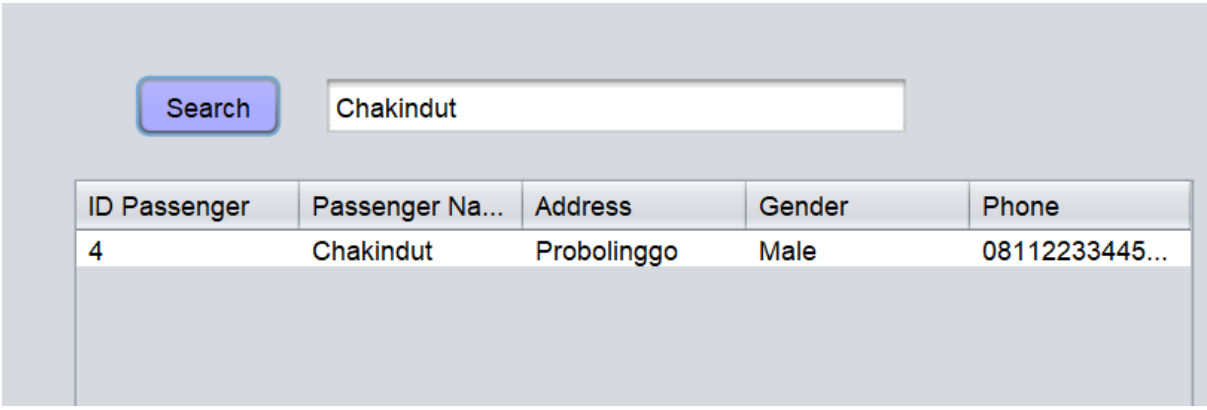




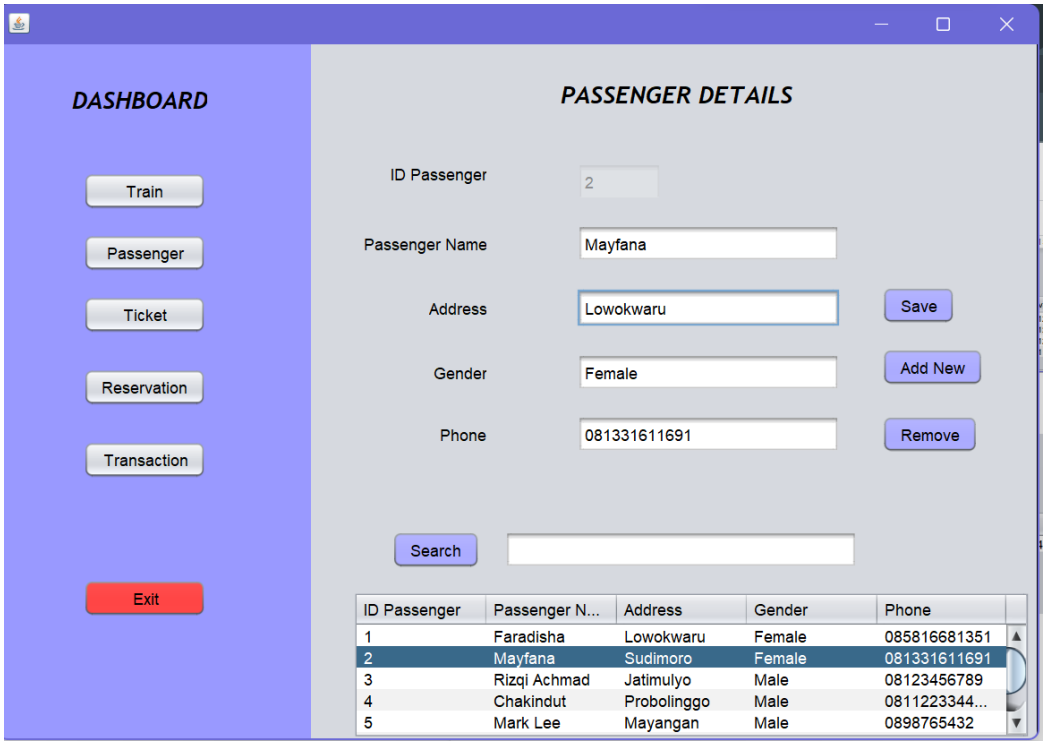
e. Transaction



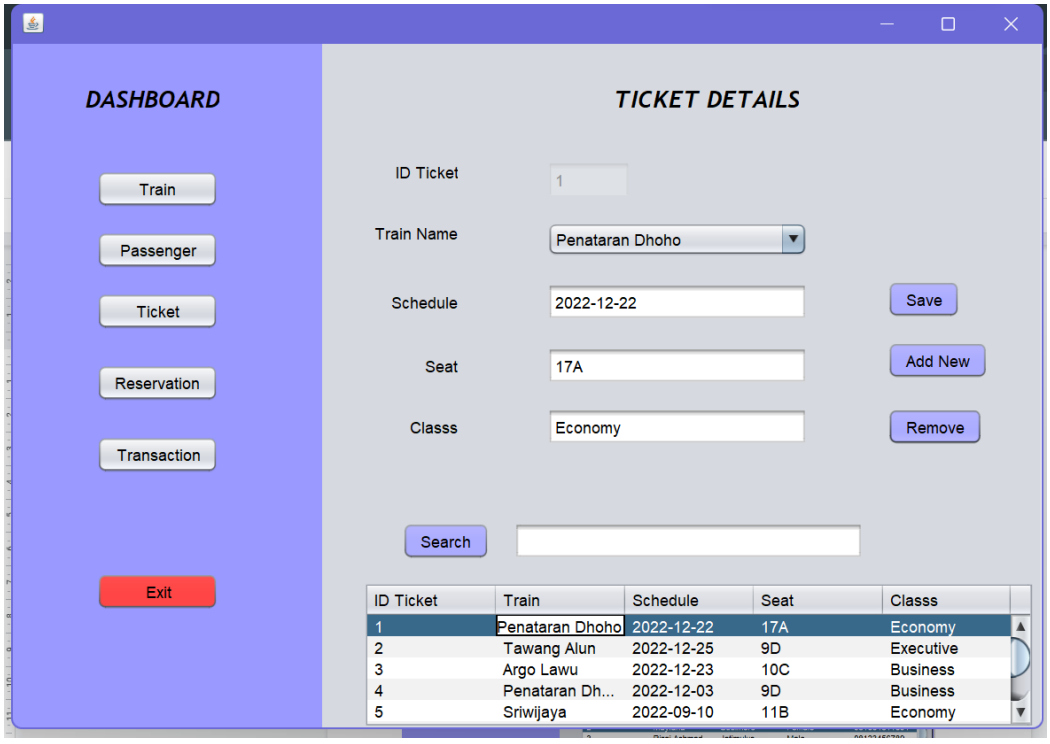
Search



Edit


DASHBOARD
Train
Passenger
Ticket
Reservation
Transaction
Exit
PASSENGER DETAILS
ID Passenger
2
Passenger Name
Mayfana
Address
Lowokwaru
Gender
Female
Phone
081331611691
Save
Add New
Remove
Search
ID Passenger
Passenger N...
Address
Gender
Phone
1
Faradisha
Lowokwaru
Female
085816681351
2
Mayfana
Sudimoro
Female
081331611691
3
Rizqi Achmad
Jatimulyo
Male
08123456789
4
Chakindut
Probolinggo
Male
0811223344...
5
Mark Lee
Mayangan
Male
0898765432

Remove


DASHBOARD
Train
Passenger
Ticket
Reservation
Transaction
Exit
TICKET DETAILS
ID Ticket
1
Train Name
Penataran Dhoho
Schedule
2022-12-22
Seat
17A
Classs
Economy
Save
Add New
Remove
Search
ID Ticket
Train
Schedule
Seat
Classs
1
Penataran Dhoho
2022-12-22
17A
Economy
2
Tawang Alun
2022-12-25
9D
Executive
3
Argo Lawu
2022-12-23
10C
Business
4
Penataran Dh...
2022-12-03
9D
Business
5
Sriwijaya
2022-09-10
11B
Economy