JavaFX Project

Employee Management System

Introduction:

This application helps us to store the information of all the employees working in any firm. Here an employee can register himself/herself. After registering his/her profile will open , in which several edit profile options are available.

To access the profile again, employee needs to remember his/her Email ID and password ,which can be entered in the provided login form.

Technologies used :

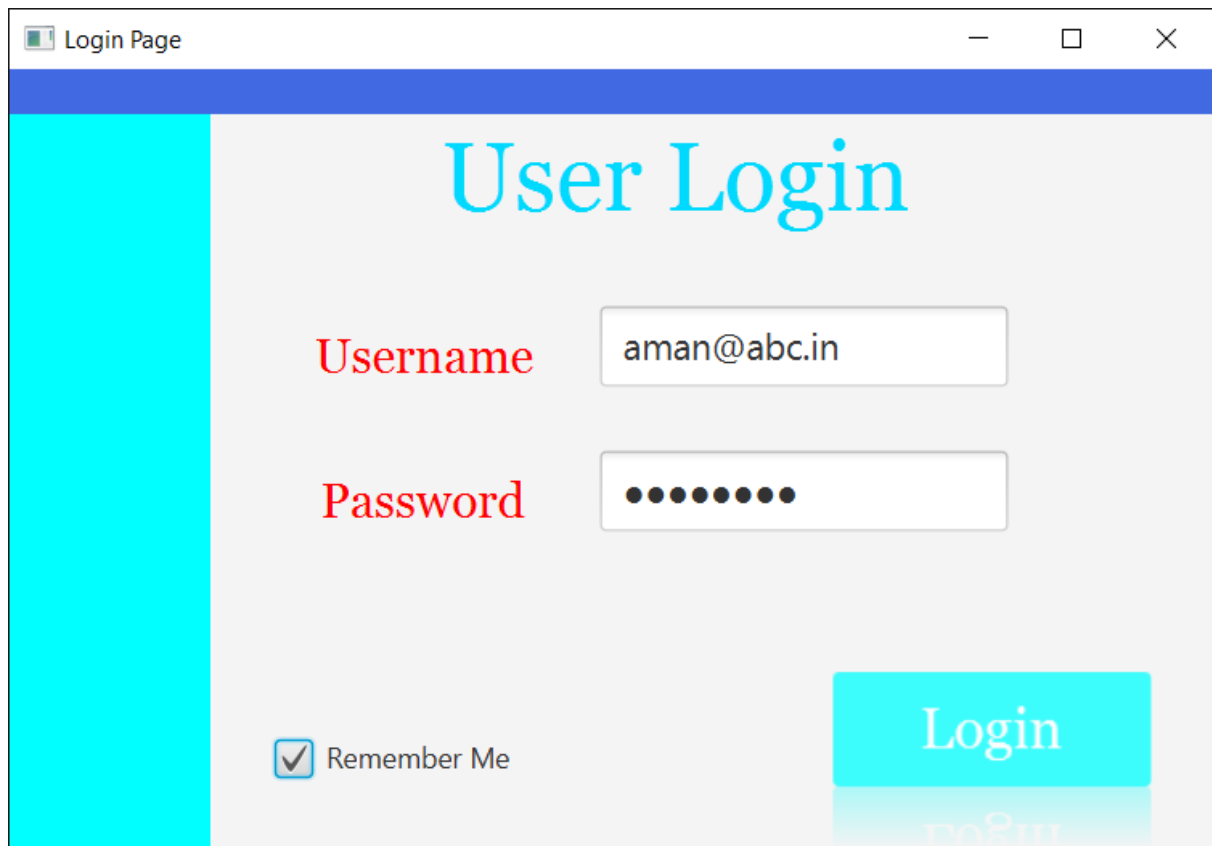Java , JavaFX , Jdbc , Scenebuilder , MySQL database and Intellij IDEA Community Edition- 2021.1.1

Screenshots :

Front-end

Home page :

Login Page :
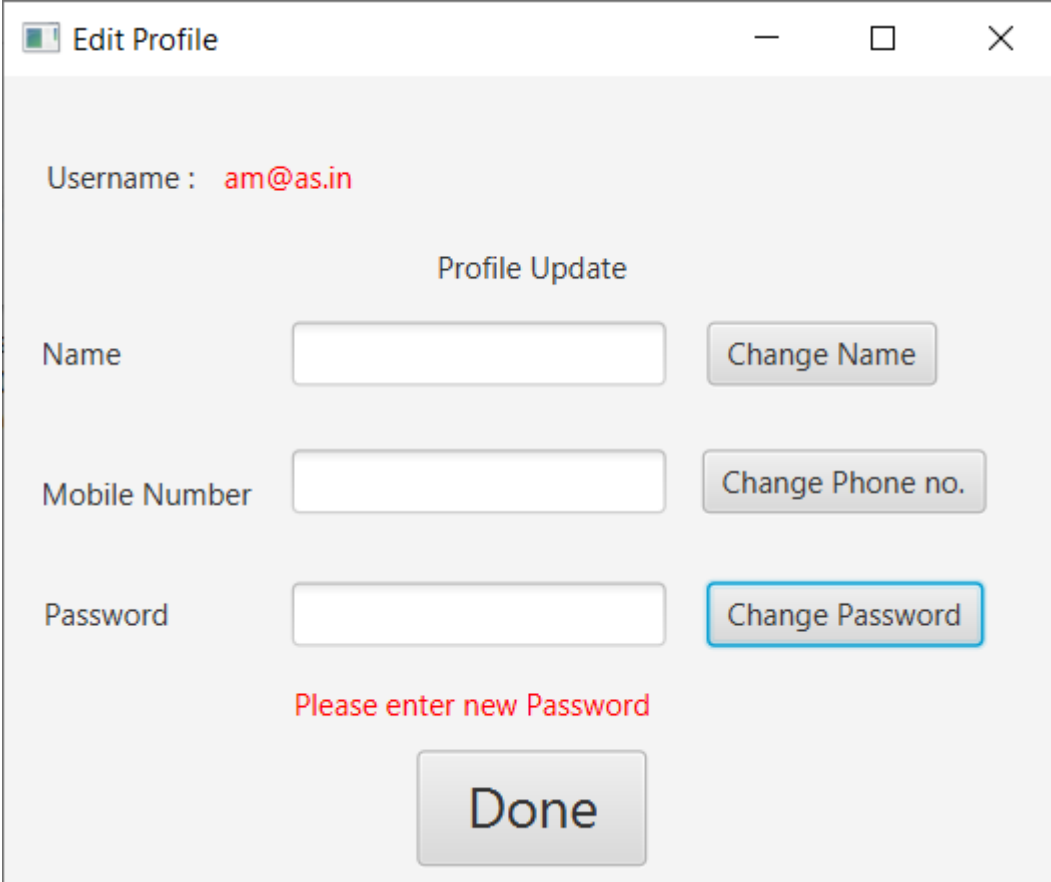
Sign In page :

Profile Page :

Edit Profile page :

Working of the project :

- Backend part :

Creating table in database :

(employee_management database)

```
MySQL 8.0 Command Line Client                                                    —    □    X
mysql> create table emp__data(name varchar(150) not null, email varchar(150), password varchar(50), mobile varchar(50),d
ob varchar(50),gender char(20),color varchar(50),mt_status char(20), primary key (email));
Query OK, 0 rows affected (0.40 sec)

mysql> describe emp__data;
+-----------+--------------+------+-----+---------+-------+
| Field     | Type         | Null | Key | Default | Extra |
+-----------+--------------+------+-----+---------+-------+
| name      | varchar(150) | NO   |     | NULL    |       |
| email     | varchar(150) | NO   | PRI | NULL    |       |
| password  | varchar(50)  | YES  |     | NULL    |       |
| mobile    | varchar(50)  | YES  |     | NULL    |       |
| dob       | varchar(50)  | YES  |     | NULL    |       |
| gender    | char(20)     | YES  |     | NULL    |       |
| color     | varchar(50)  | YES  |     | NULL    |       |
| mt_status | char(20)     | YES  |     | NULL    |       |
+-----------+--------------+------+-----+---------+-------+
8 rows in set (0.64 sec)

mysql>
```

Entering data in table :
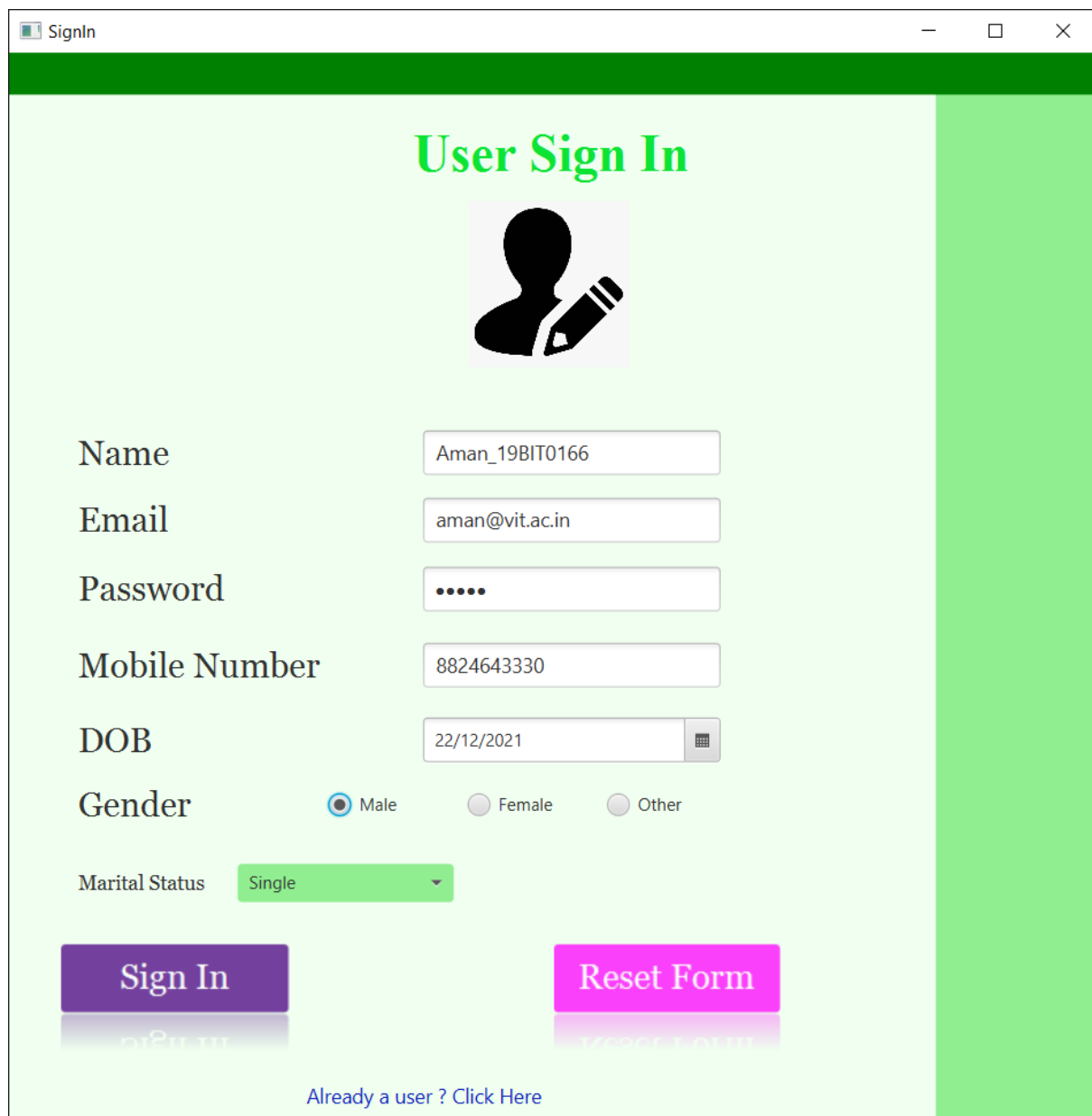
```
MySQL 8.0 Command Line Client                                                    —    □    X
mysql> use employee_management;
Database changed
mysql> select * from emp_data;
+-------+-----------+----------+------------+------------+--------+-------+----------+
| name  | email     | password | mobile     | dob        | gender | color | mt_status |
+-------+-----------+----------+------------+------------+--------+-------+----------+
| Aman  | am@as.in  | 123      | 9876543210 | 2021-12-16 | Male   | NULL  | Single   |
| Harry | as@123.in | 789      | 9414678954 | 2021-12-07 | Male   | NULL  | Single   |
| Denk  | dk@qwe.in | 123      | 9876543210 | 2021-12-23 | Female | NULL  | Married  |
| Jerry | jk@123.in | 120      | 951324892  | 2021-12-10 | Other  | NULL  | Divorsee |
| Rohan | rn@123.in | 321      | 9876543210 | 2021-12-16 | Female | NULL  | Divorsee |
+-------+-----------+----------+------------+------------+--------+-------+----------+
5 rows in set (0.00 sec)

mysql>
```

Performing CRUD operations in mySQL database using javaFx project :

CREATE (C) :

Creating account using JavaFX registration form :

Database before and after creating account :

READ (R) :

Reading data from database using login form :
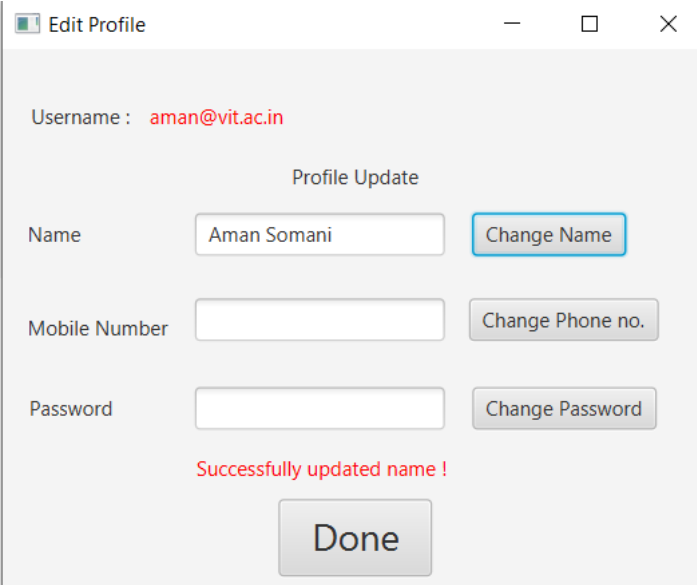
Successful Login :

UPDATE (U) :
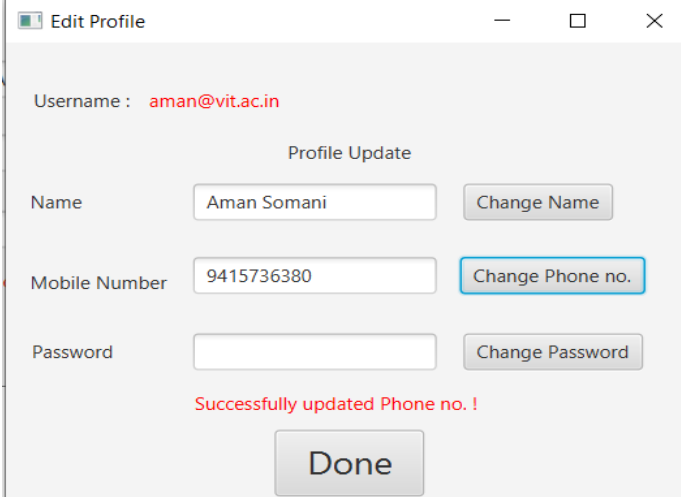
Updating user data :

- Changing name :

- Changing mobile number :

- # Changing password :

Database before and after UPDATING user profile :

DELETE (D) :

Deleting user profile :

Clicking on DELETE ACCOUNT button will delete the user permanently :
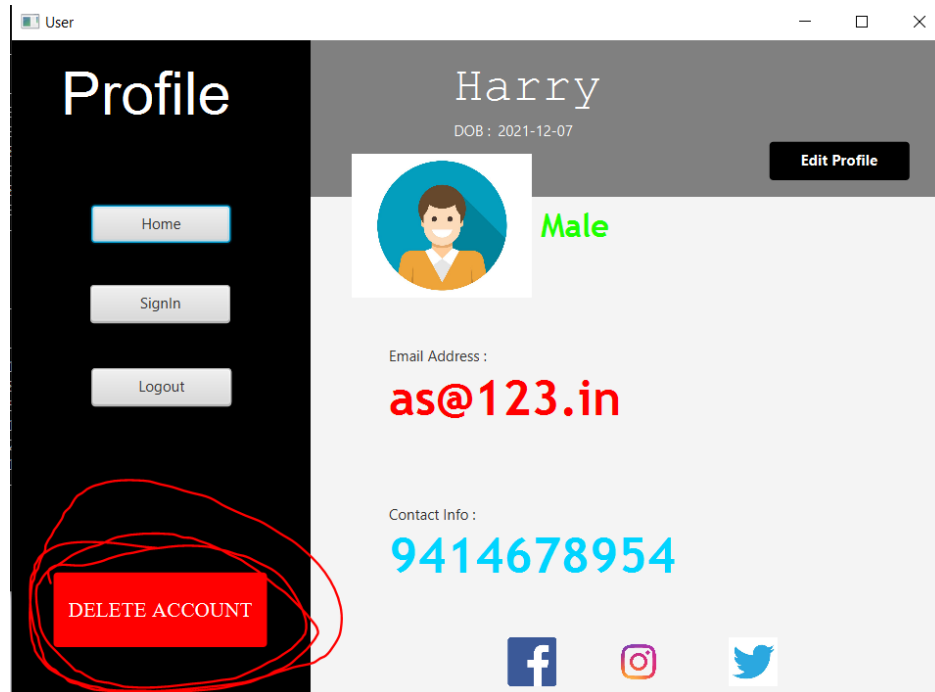
Database before and after deleting the user :

- # **Validation :**

- Entering incomplete details and submitting the form :

The system will prompt us to enter all the details before clicking "Sign In " button.

- Entering an already used email address for sign in:
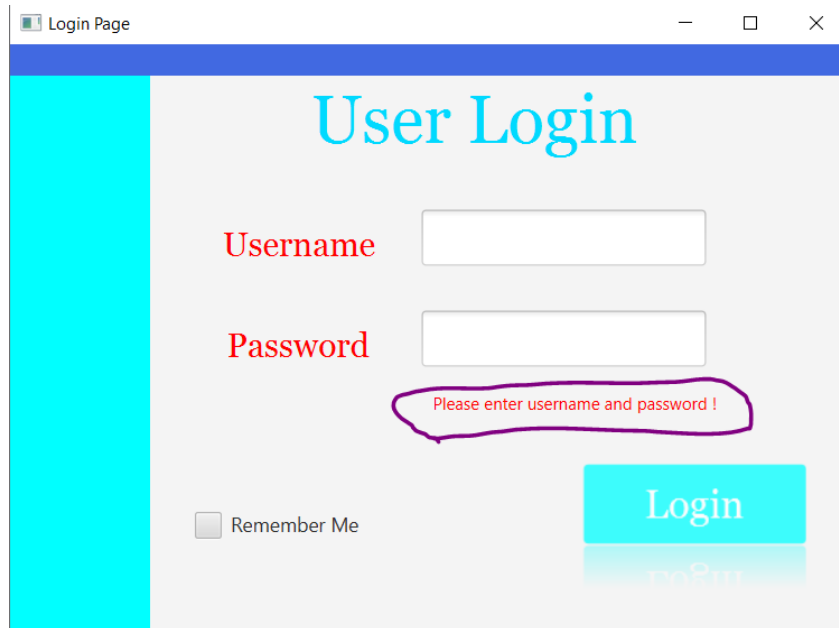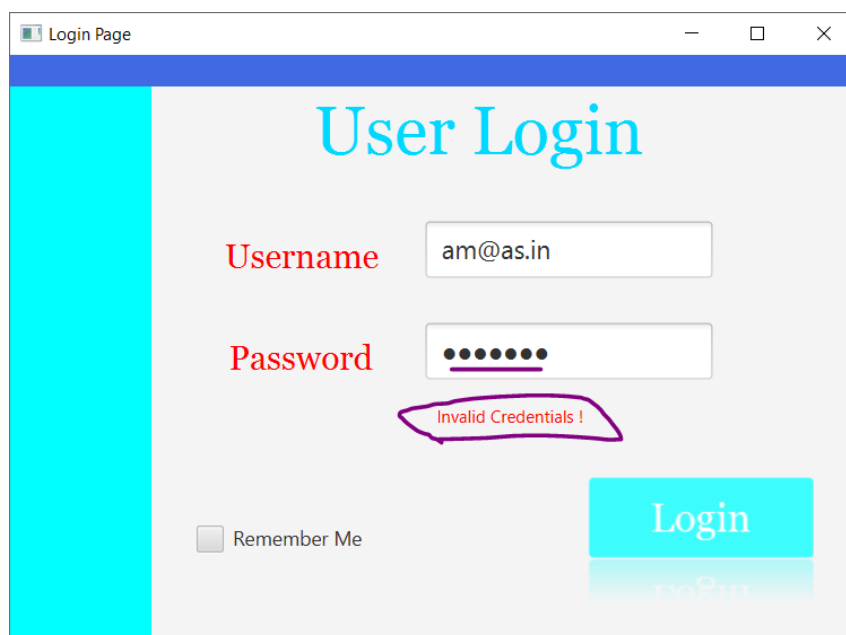
Login Page :

- Clicking 'Login button' without entering required fields.

- Entering wrong password :

CODE :

This code can also be viewed at :

https://github.com/Aman235820/JavaFx_Employee_Manage
ment_System

- Database connection using jdbc :

```
package Connection;

import java.sql.Connection;

import java.sql.DriverManager;

public class ConnectionClass {

public Connection con;

    public Connection getConnection() {

        try {

            Class.forName("com.mysql.cj.jdbc.Driver");

            con =
DriverManager.getConnection("jdbc:mysql://localhost:3306/employee_manag
ement", "root", "aman");


        } catch (Exception e) {

            System.out.println(e);
```

```
        }

    return con;

    }

}
```
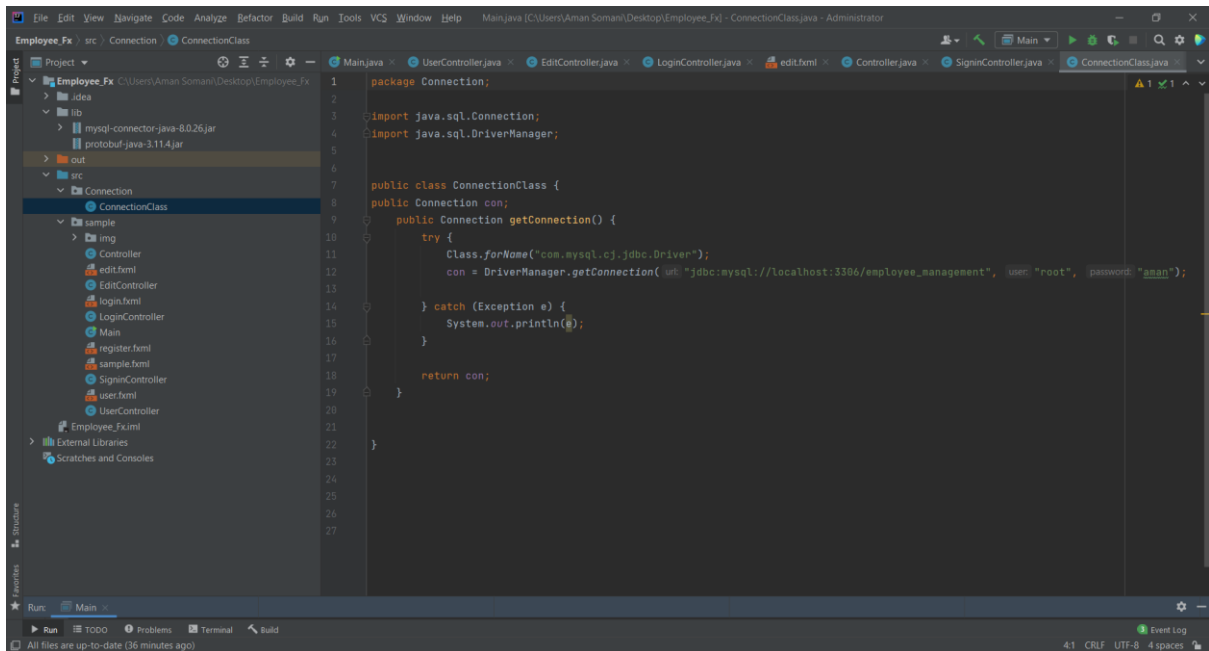

Main.java

```java
package sample;

import javafx.application.Application;
import javafx.fxml.FXMLLoader;
import javafx.scene.Parent;
import javafx.scene.Scene;
import javafx.stage.Stage;

public class Main extends Application {

    @Override
    public void start(Stage primaryStage) throws Exception{
        Parent root =
FXMLLoader.load(getClass().getResource("sample.fxml"));
        primaryStage.setTitle("Dashboard");
```

```
        primaryStage.setScene(new Scene(root, 941, 631));
        primaryStage.show();
    }


    public static void main(String[] args) {
        launch(args);
    }
}
```

Controllers :

Controller.java

```
package sample;

import javafx.event.ActionEvent;
import javafx.fxml.FXML;
import javafx.fxml.FXMLLoader;
import javafx.fxml.Initializable;
import javafx.scene.Parent;
import javafx.scene.Scene;
import javafx.scene.control.Button;
import javafx.stage.Stage;

import java.io.IOException;
import java.sql.SQLOutput;

public class Controller {

        @FXML
        private Button signbtn;

         @FXML
         private Button logbtn;

        @FXML
        public void signin(ActionEvent actionEvent) throws IOException{

                    FXMLLoader fxmlLoader = new
FXMLLoader(getClass().getResource("register.fxml"));
                    Parent root1 = (Parent) fxmlLoader.load();

                    Stage stage = new Stage();
                    stage.setTitle("SignIn");
                    stage.setScene(new Scene(root1));
                    stage.show();


        }

    @FXML
    public void login(ActionEvent actionEvent) throws IOException{
```

```java
        FXMLLoader fxmlLoader = new
FXMLLoader(getClass().getResource("login.fxml"));
        Parent root2 = (Parent) fxmlLoader.load();

        Stage stage = new Stage();
        stage.setTitle("Login Page");
        stage.setScene(new Scene(root2));
        stage.show();


    }


}
```

SigninContoller.java

```java
package sample;

import javafx.beans.value.ChangeListener;
import javafx.collections.FXCollections;
import javafx.collections.ObservableList;
import javafx.event.ActionEvent;
import javafx.fxml.FXML;
import javafx.fxml.FXMLLoader;
import javafx.scene.Node;
import javafx.scene.Parent;
import javafx.scene.Scene;
import javafx.scene.control.*;
import Connection.ConnectionClass;
import javafx.scene.paint.Color;
import javafx.stage.Stage;

import java.io.IOException;
import java.sql.*;
import java.time.LocalDate;
import java.time.format.DateTimeFormatter;

public class SigninController {

    ObservableList<String> maritalStatusList =
FXCollections.observableArrayList("Single","Married","Divorsee");

    @FXML
    private ChoiceBox maritalStatusBox;

    @FXML
    private Button signin;
    private Button res;

    @FXML
    private TextField nm;

    @FXML
```

```java
    private TextField mail;

    @FXML
    private PasswordField pass;

    @FXML
    private TextField phn;

    @FXML
    private RadioButton rbt1,rbt2,rbt3;

    @FXML
    private  DatePicker dob;

    @FXML
    private Label lbl;



    String gender="";

    @FXML
    public void getGen(ActionEvent actionEvent){

        if(rbt1.isSelected()){
            gender=rbt1.getText();
        }
        else if(rbt2.isSelected()){
            gender=rbt2.getText();
        }
        else if(rbt3.isSelected()){
            gender=rbt3.getText();
        }
    }

    @FXML
    private void initialize(){
        maritalStatusBox.setValue("Single");
        maritalStatusBox.setItems(maritalStatusList);

    }

    String dat = "";
    @FXML
    public void getDate(ActionEvent actionEvent){
        try {
            LocalDate mydate = dob.getValue();
            dat = mydate.toString();
        }catch(Exception e){

        }
    }




    @FXML
    public void submit(ActionEvent actionEvent) throws SQLException{
```

```java
        if((!(nm.getText()).equals("")) && (!(mail.getText()).equals(""))
&& (!(pass.getText()).equals("")) && (!(phn.getText()).equals("")) &&
(!(gender).equals("")) &&  (!(dat).equals("")) ){
            try {
                ConnectionClass connectionClass = new ConnectionClass();
                Connection connection = connectionClass.getConnection();

                String sql = "insert into emp_data
(name,email,password,mobile,dob,gender,mt_status) values('" + nm.getText()
+ "' , '" + mail.getText() + "' , '" + pass.getText() + "' ,'" +
phn.getText() + "' , '" + dat + "' ,'" + gender + "' , '" +
maritalStatusBox.getValue() + "');";
                Statement statement = connection.createStatement();
                statement.executeUpdate(sql);
                //System.out.println(sql);

                //opening user profile
                FXMLLoader fxmlLoader = new
FXMLLoader(getClass().getResource("user.fxml"));
                Parent root2 = (Parent) fxmlLoader.load();
                UserController usc = fxmlLoader.getController();
                usc.setLabel(mail.getText());
                Stage stage = new Stage();
                stage.setTitle("User");
                stage.setScene(new Scene(root2));
                stage.show();

                //closing the login page
                Node n = (Node) actionEvent.getSource();
                Stage st = (Stage) n.getScene().getWindow();
                st.close();


            }catch(SQLException e){
                lbl.setText("Email address already taken :(");
            }
            catch(IOException e){
                e.printStackTrace();
            }
        }
        else{
            lbl.setText("Please enter all the details !");
        }

    }

    @FXML
    public void reset(ActionEvent actionEvent){
        nm.setText("");
        mail.setText("");
        pass.setText("");
        phn.setText("");
        rbt1.setSelected(false);
        rbt2.setSelected(false);
        rbt3.setSelected(false);
        dob.setValue(null);
        maritalStatusBox.setValue("Single");
    }
```

```
}
```

LoginController.java

```java
package sample;

import Connection.ConnectionClass;
import javafx.event.ActionEvent;
import javafx.fxml.FXML;
import javafx.fxml.FXMLLoader;
import javafx.scene.Node;
import javafx.scene.Parent;
import javafx.scene.Scene;
import javafx.scene.control.Button;
import javafx.scene.control.Label;
import javafx.scene.control.PasswordField;
import javafx.scene.control.TextField;
import javafx.stage.Stage;

import java.sql.Connection;
import java.sql.ResultSet;
import java.sql.SQLException;
import java.sql.Statement;

public class LoginController {

    @FXML
    private Button log_in;

    @FXML
    private TextField user;

    @FXML
    private PasswordField pass;

    @FXML
    private Label err;

    @FXML
    public void loggedin(ActionEvent actionEvent) throws SQLException {


                if(user.getText().isBlank()==false ||
pass.getText().isBlank()==false){
                    ConnectionClass connectionClass = new
ConnectionClass();
                    Connection connection =
connectionClass.getConnection();

                    String sql = "select count(1) from emp_data where
email = '" + user.getText() + "' and password = '"+pass.getText()+"';";
                    try {
                        Statement statement =
connection.createStatement();
                        ResultSet rs = statement.executeQuery(sql);
                        while(rs.next()){
```

```
                            if(rs.getInt(1)==1){

                                //opening user profile
                                FXMLLoader fxmlLoader = new
FXMLLoader(getClass().getResource("user.fxml"));
                                Parent root2 = (Parent) fxmlLoader.load();
                                UserController usc =
fxmlLoader.getController();
                                usc.setLabel(user.getText());
                                Stage stage = new Stage();
                                stage.setTitle("User");
                                stage.setScene(new Scene(root2));
                                stage.show();

                                //closing the login page
                                Node n = (Node) actionEvent.getSource();
                                Stage st = (Stage)
n.getScene().getWindow();
                                st.close();

                            }
                            else{
                                err.setText("Invalid Credentials !");
                            }
                        }
                    }catch(Exception e){
                        e.printStackTrace();
                    }
                }
                else {
                    err.setText("Please enter username and password !");
                }


    }
}
```

UserController.java

```
package sample;

import Connection.ConnectionClass;
import javafx.event.ActionEvent;
import javafx.fxml.FXML;
import javafx.fxml.FXMLLoader;
import javafx.scene.Node;
import javafx.scene.Parent;
import javafx.scene.Scene;
import javafx.scene.control.Button;
import javafx.scene.control.Label;
import javafx.stage.Stage;
```

```java
import java.io.IOException;
import java.sql.Connection;
import java.sql.ResultSet;
import java.sql.SQLException;
import java.sql.Statement;

public class UserController {

    @FXML
    public Label email;
    public Label lb1;
    public Label lb4;
    public Label lb5;
    public Label lb6;

    @FXML
    public Button bt1;
    public Button bt2;
    public Button bt3;
    public Button edit;
    public Button del;



    @FXML
    public void setLabel(String mail) {
        email.setText(mail);

        ConnectionClass connectionClass = new ConnectionClass();
        Connection connection = connectionClass.getConnection();

        String sql = "select * from emp_data where email = '" +mail+ "';";
        try {
            Statement statement = connection.createStatement();
            ResultSet rs = statement.executeQuery(sql);
            while (rs.next()) {
                lb1.setText(rs.getString(1));
                lb4.setText(rs.getString(4));
                lb5.setText(rs.getString(5));
                lb6.setText(rs.getString(6));
            }
        }catch(SQLException e){
            e.printStackTrace();
        }

    }

    @FXML
    public void home(ActionEvent actionEvent){

        //closing the page
        Node n = (Node) actionEvent.getSource();
        Stage st = (Stage) n.getScene().getWindow();
        st.close();
    }

    @FXML
    public void sign(ActionEvent actionEvent) throws IOException {


        FXMLLoader fxmlLoader = new
```

```java
FXMLLoader(getClass().getResource("register.fxml"));
        Parent root1 = (Parent) fxmlLoader.load();

        Stage stage = new Stage();
        stage.setTitle("SignIn");
        stage.setScene(new Scene(root1));
        stage.show();

        //closing the page
        Node n = (Node) actionEvent.getSource();
        Stage st = (Stage) n.getScene().getWindow();
        st.close();

    }

    @FXML
    public void logout(ActionEvent actionEvent) throws IOException {

        FXMLLoader fxmlLoader = new
FXMLLoader(getClass().getResource("login.fxml"));
        Parent root2 = (Parent) fxmlLoader.load();

        Stage stage = new Stage();
        stage.setTitle("Login Page");
        stage.setScene(new Scene(root2));
        stage.show();

        //closing the page
        Node n = (Node) actionEvent.getSource();
        Stage st = (Stage) n.getScene().getWindow();
        st.close();
    }


    @FXML
    public void update(ActionEvent actionEvent)throws IOException {

        FXMLLoader loader = new
FXMLLoader(getClass().getResource("edit.fxml"));
        Parent root3 = (Parent) loader.load();
        EditController esc = loader.getController();
        esc.setLabel1(email.getText());
        Stage stage = new Stage();
        stage.setTitle("Edit Profile");
        stage.setScene(new Scene(root3));
        stage.show();

        //closing the profile
        Node n = (Node) actionEvent.getSource();
        Stage st = (Stage) n.getScene().getWindow();
        st.close();

    }

    @FXML
    public void delete(ActionEvent actionEvent) throws  SQLException{

        ConnectionClass connectionClass = new ConnectionClass();
        Connection connection = connectionClass.getConnection();

        String sql = "delete from emp_data where email =
```

```
'"+email.getText()+"';";
        try {
            Statement statement = connection.createStatement();
            statement.executeUpdate(sql);

        }catch(SQLException e){
            e.printStackTrace();
        }


        //closing the profile
        Node n = (Node) actionEvent.getSource();
        Stage st = (Stage) n.getScene().getWindow();
        st.close();

    }


}
```

EditController.java

```java
package sample;

import Connection.ConnectionClass;
import javafx.event.ActionEvent;
import javafx.fxml.FXML;
import javafx.scene.Node;
import javafx.scene.control.Button;
import javafx.scene.control.Label;
import javafx.scene.control.TextField;
import javafx.stage.Stage;

import java.sql.Connection;
import java.sql.SQLException;
import java.sql.Statement;


public class EditController {

    @FXML
    public Label mail;
    public Label err;

    @FXML
    public TextField editnm;
    public TextField editphn;
    public TextField editpass;

    @FXML
    public Button bt1;
    public Button bt2;
    public Button bt3;
    public Button finish;
```

```java
    @FXML
    public void setLabel1(String id){
          mail.setText(id);
    }

    @FXML
    public void name(ActionEvent actionEvent) throws SQLException {
          if((editnm.getText()).equals("")){
              err.setText("Please enter name");
          }
          else{

              ConnectionClass connectionClass = new ConnectionClass();
              Connection connection = connectionClass.getConnection();

              String sql = "update emp_data set name =
'"+editnm.getText()+" 'where email = '" +mail.getText()+ "';";
              Statement statement = connection.createStatement();
              statement.executeUpdate(sql);
              err.setText("Successfully updated name !");
          }
    }

    @FXML
    public void phn(ActionEvent actionEvent)throws SQLException{
        if((editphn.getText()).equals("")){
            err.setText("Please enter mobile no.");
        }
        else{

            ConnectionClass connectionClass = new ConnectionClass();
            Connection connection = connectionClass.getConnection();

            String sql = "update emp_data set mobile =
'"+editphn.getText()+" 'where email = '" +mail.getText()+ "';";
            Statement statement = connection.createStatement();
            statement.executeUpdate(sql);
            err.setText("Successfully updated Phone no. !");
        }
    }

    @FXML
    public void pass(ActionEvent actionEvent)throws SQLException{
        if((editpass.getText()).equals("")){
            err.setText("Please enter new Password");
        }
        else{

            ConnectionClass connectionClass = new ConnectionClass();
            Connection connection = connectionClass.getConnection();

            String sql = "update emp_data set password =
'"+editpass.getText()+" 'where email = '" +mail.getText()+ "';";
            Statement statement = connection.createStatement();
            statement.executeUpdate(sql);
            err.setText("Successfully updated password !");
        }
    }
```

```
    @FXML
    public void close(ActionEvent actionEvent){
        //closing the page
        Node n = (Node) actionEvent.getSource();
        Stage st = (Stage) n.getScene().getWindow();
        st.close();
    }

}
```