Sri Lanka Institute of Information Technology

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Assignment 02 - REST API

Fire Alarm Monitoring System

Assignment Report

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Declaration

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Project Details

Project Title	Fire Alarm Monitoring System
Project ID	

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Table of Contents

List of Acronyms and Abbreviations

1. Introduction

1.1 Introduction to Fire Alarm Monitoring System

The Fire Alarm Monitoring system has a web client application and desktop client application. Analyze system status, giving alerts according to the details of the system and add/register/edit new fire alarm sensors are the main features of the system.

In web client application users can view the status of all fire alarm sensors. For each sensor, the web application displays the status of the fire alarm sensor (active or deactive), the location (floor no, room no), the smoke level (1-10) and the CO_2 level (1-10 scale). If the smoke level or CO_2 level is above 5, then they should be marked in red. These sensor details are updated every 40 seconds.

In desktop client application users can view the same information from a desktop client. The information is refreshed every 30 seconds. Also the desktop client application has an administrator login. Using this administrator login, administrator can add/register new fire alarm sensors by giving floor number and the room as the details. The administrator can edit sensor details as well. When the CO_2 level or Smoke level is moved to a value greater than 5 in any sensor, an alert is displayed to the desktop client. If the co2 level or smoke level is greater than 5, sensor status will be displayed in red colour and an email will be sent by the system in such situations. If the co2 level or smoke level is less than 5, sensor status will be displayed in Yellow or green colour.

1.2 High-Level Architecture Diagram

Activity Diagram
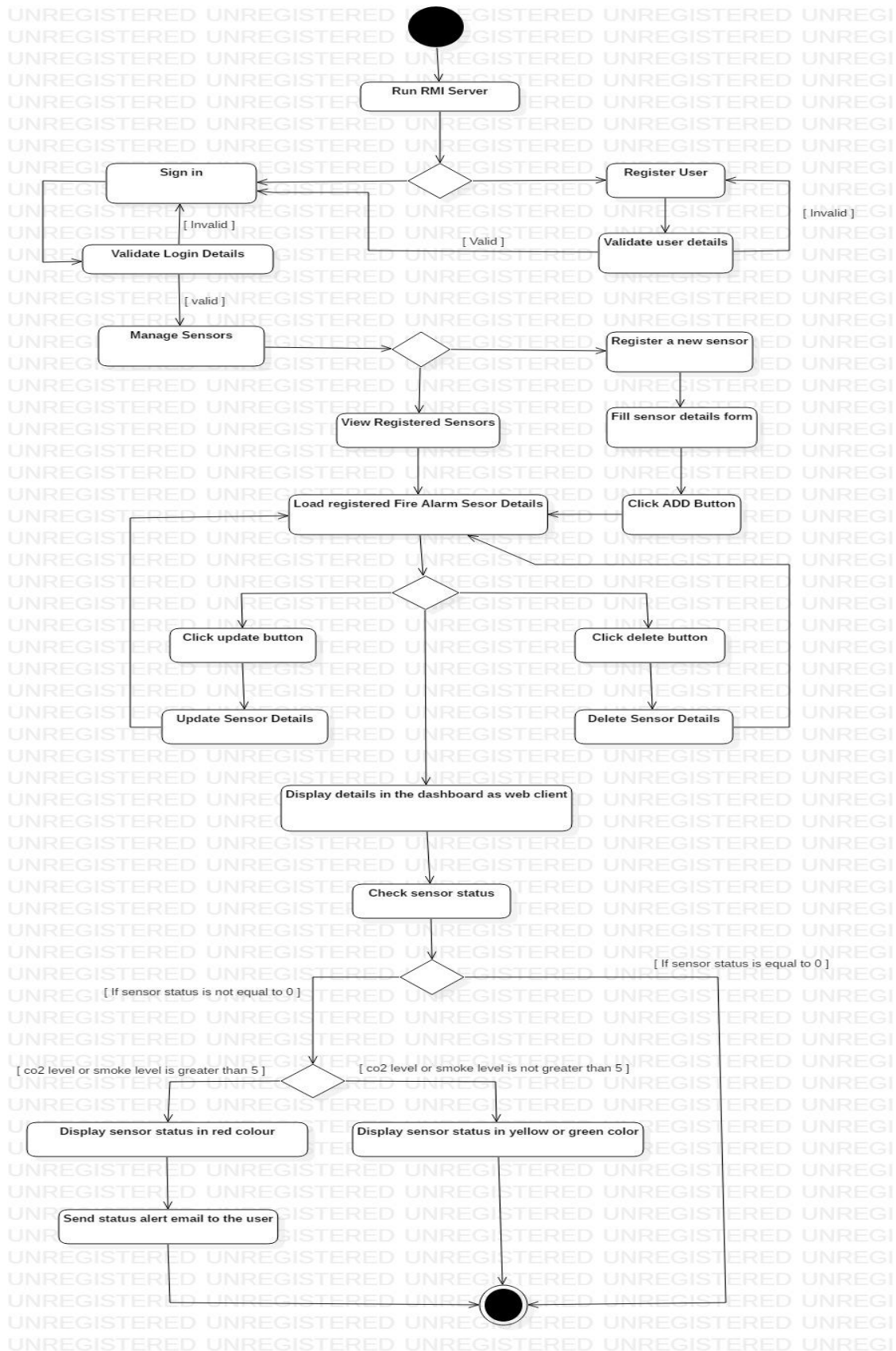
Physical Diagram
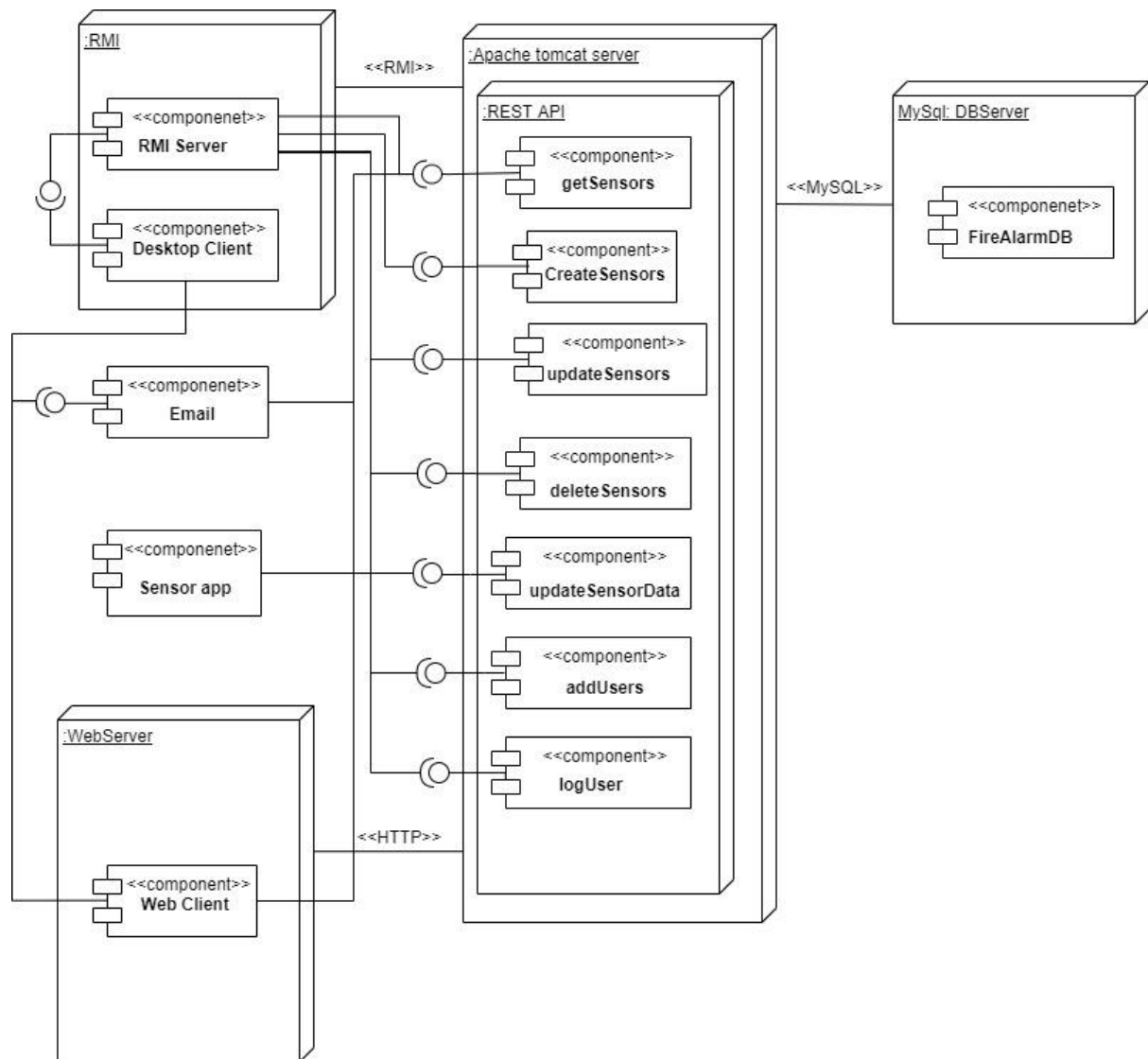
1.3 Service interfaces exposed by each service & workflows used in the system
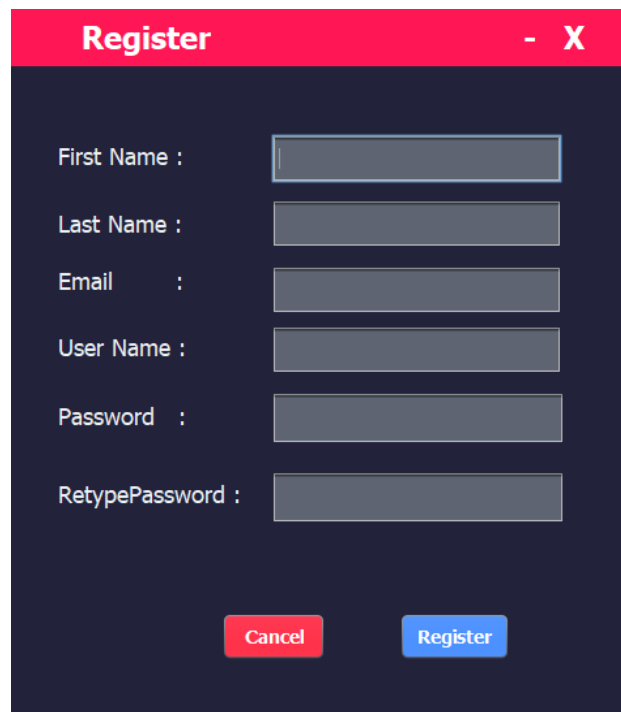
Home

This is the Home interface users will see when they run the RMI Program. In the home of the fire alarm monitoring system users can access two options. Unregistered users can register as the new user to the system by clicking the Register User button. Registered users can login to the system by clicking the sign in button.
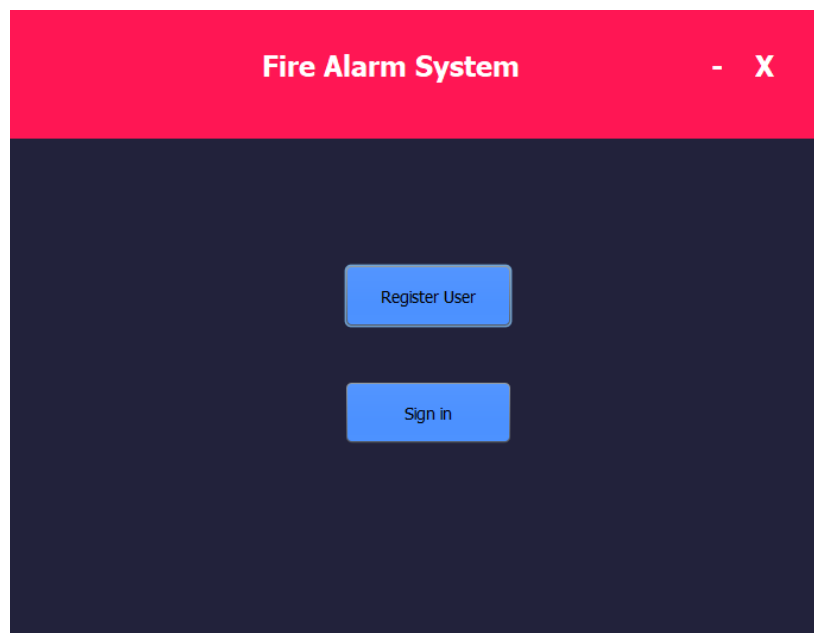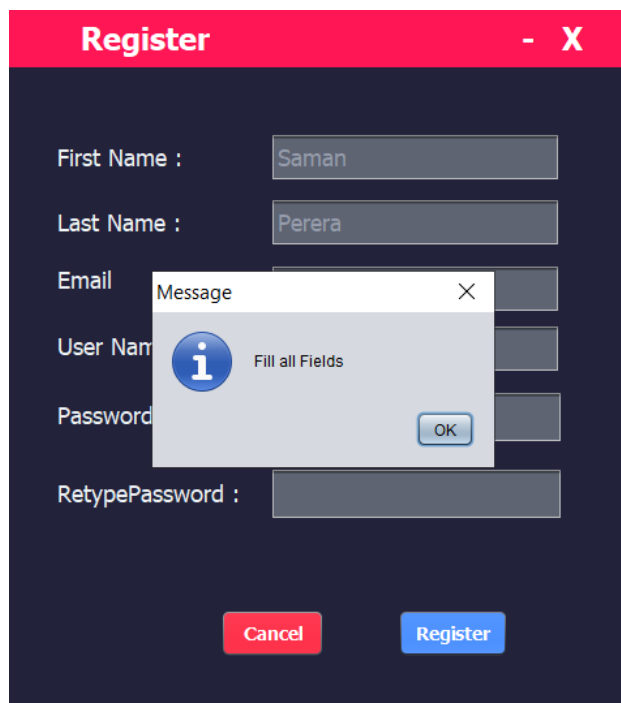
User Registration

Once click the Register user button users will get a user registration interface. Unregistered users can register to the fire alarm monitoring system using this user registration interface by giving First Name, Last Name, Email, Username and Password as the details. After clicking the Register button in the User Registration interface new user can access the Login Form interface.

Users need to fill all the details in order to register to the fire alarm monitoring system. Otherwise the system will display Pop Up box saying "Fill All Fields" message.
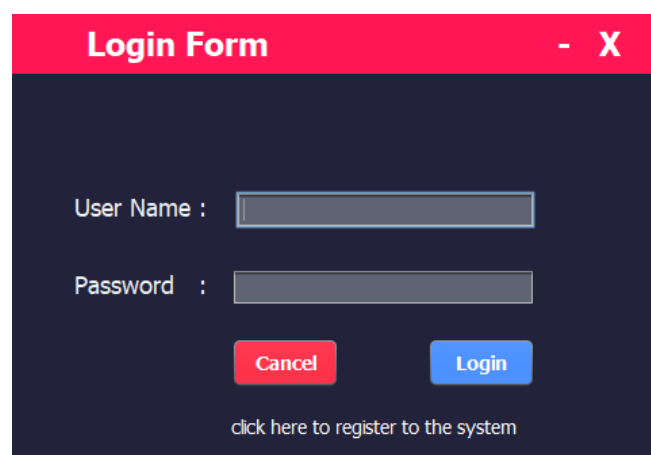
Users need to add password and confirm password to register to the fire alarm monitoring system. Otherwise the system will display Pop Up box saying "Retype the password again" message.

User Login

Pre-registered users can access the Login Form interface straightforwardly from the home by clicking the sign-in button. Once clicking the Register button in user registration from new users can access the Login Form interface. After entering the username and the password, users can click the Login button to access the Manage Sensors interface.

Manage Sensors

In Manage sensor interface users can see two options. Users can view sensor details by clicking the View registered sensor info button and register new fire alarms to the system by clicking the Register a new sensor button .
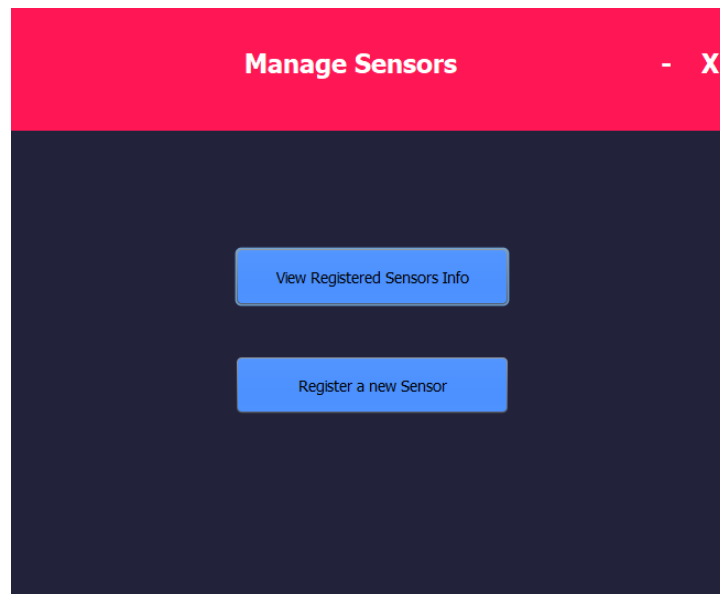
View Registered Sensor Information
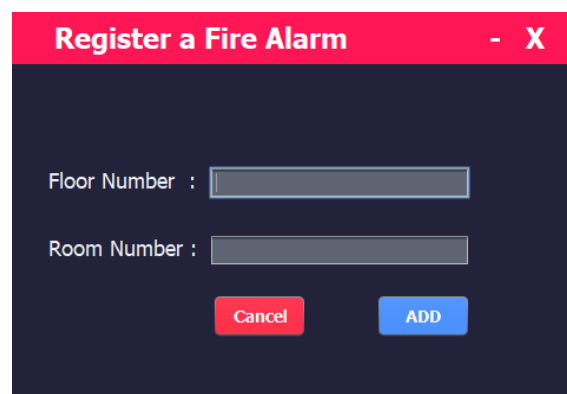
Once clicking the View registered sensor info button in Manage sensor interface users can view details of the registered fire alarm sensors in the Fire Alarm Monitoring system. All the registered sensors details are displayed using a table.

Sensor ID	Co2 Level	Smoke Level	Floor Number	Room Number	Sensor status	Action
1	4	3	F1	F101	0	Deactive
2	5	7	F2	F203	1	Active
3	2	8	F3	F304	1	Active
4	4	1	F3	F305	0	Deactive
5	5	7	F1	F102	1	Active
6	6	9	F2	F206	1	Active

Fire alarm sensor Registration

Once clicking the Register a new sensor button in the Manage Sensors interface users can register new fire alarms to the system by giving Floor Number and Room Number as the details. A new sensor can be assigned to the related Floor Number and Room Number using this interface.

By clicking the ADD button users can view details of the registered fire alarm sensors in the Fire Alarm Monitoring system. (All the registered sensors details are displayed using a table and this interface is the same interface users can see, when they click the View registered sensor info button through the Manage sensor interface.)

Web Client (Sensor Dashboard)

Once a user runs a sensor-web-client project, automatically the browser will open and show the web client. Sensor Dashboard displays the details about all the sensors that assign to the particular room no and floor no. The web client sensor details are refreshed every 40 seconds according to the co2 level and smoke level. All the percentages are illustrated in the sensor dashboard using respective colours. If the co2 level or smoke level is greater than 5, sensor status will be displayed in red colour. If the co2 level or smoke level is less than 5, sensor status will be displayed in Yellow or green colour.

Sensor Dashbord

| Floor #F1 - Room #F101 | Sensor ID: 1 |
| Co2 Level : 3 — 30% | Smoke Level : 6 — 60% |

| Floor #F2 - Room #F202 | Sensor ID: 2 |
| Co2 Level : 8 — 80% | Smoke Level : 10 — 100% |

| Floor #F1 - Room #F103 | Sensor ID: 3 |
| Co2 Level : 10 — 100% | Smoke Level : 1 — 10% |

| Floor #F3 - Room #F304 | Sensor ID: 4 |
| Co2 Level : Disabled | Smoke Level : Disabled |

| Floor #F1 - Room #F102 | Sensor ID: 5 |
| Co2 Level : Disabled | Smoke Level : Disabled |

| Floor #F1 - Room #F104 | Sensor ID: 6 |
| Co2 Level : 7 — 70% | Smoke Level : 10 — 100% |

| Floor #F2 - Room #F201 | Sensor ID: 7 |
| Co2 Level : 2 — 20% | Smoke Level : 4 — 40% |

| Floor #F4 - Room #F403 | Sensor ID: 8 |
| Co2 Level : Disabled | Smoke Level : Disabled |

| Floor #F3 - Room #F301 | Sensor ID: 9 |
| Co2 Level : Disabled | Smoke Level : Disabled |

| Floor #F2 - Room #F204 | Sensor ID: 10 |
| Co2 Level : 1 — 10% | Smoke Level : 8 — 80% |

| Floor #F4 - Room #F404 | Sensor ID: 11 |
| Co2 Level : 8 — 80% | Smoke Level : 5 — 50% |

| Floor #F2 - Room #F206 | Sensor ID: 12 |
| Co2 Level : 1 — 10% | Smoke Level : 9 — 90% |

1.4 Authentication/Security mechanisms for Fire Alarm Monitoring System

To ensure the system is secure the analysis should be performed through the entire system. By creating threat Modelling gives theoretical insight into the security level of every element of the system with the possibility to provide controls for any potential attack or failure. [1]

Sensed data can be saved on the internet using web-based technologies. Utilizing this technology, users can access data remotely as long as they have an internet connection. Numerous WSN applications can be developed using smartphones as the gateway between sensor networks or the user and the internet. This mobile network enables the sensor network to be mobile and guarantees the security of the system. The advantage of the web-based WSN monitoring architecture for fire detection means that it gives a mechanism for allowing professionals to access sensed data remotely using an internet connection. [2]

2. Appendix

2.1 Rest API

MyResource.java

```java
package com.ds.firealarmrest;

import javax.ws.rs.GET;
import javax.ws.rs.Path;
import javax.ws.rs.Produces;
import javax.ws.rs.core.MediaType;

/**
 * Root resource (exposed at "myresource" path)
 */
@Path("myresource")
public class MyResource {

    /**
     * Method handling HTTP GET requests. The returned object will be sent
     * to the client as "text/plain" media type.
     *
     * @return String that will be returned as a text/plain response.
     */
    @GET
    @Produces(MediaType.TEXT_PLAIN)
    public String getIt() {
        return "Got it!";
    }
}
```

DbConnection.java

```java
package com.ds.firealarmrest;

import java.sql.Connection;
import java.sql.DriverManager;

/***create DB connection ***/
public class DbConnection {
    private static Connection connection;
    private DbConnection() {
    }

    public static Connection getConnection() {
        String url = "jdbc:mysql://localhost:3306/firealarmsystemdb";
        String username = "root";
        String password = "MySql@#123";
        try {
            Class.forName("com.mysql.jdbc.Driver");
            connection = DriverManager.getConnection(url, username, password);
        } catch (Exception e) {
            System.out.println(e);
```

```
      }
      return connection;
   }
}
```

Sensor.java

```java
package com.ds.firealarmrest.sensor;

import javax.xml.bind.annotation.XmlRootElement;

/******************** Sensor Model class ******************/

@XmlRootElement
public class Sensor {
   private int sensorId;
   private int co2Level;
   private int smokeLevel;
         private String floorNo;
         private String roomNo;
         private int status;

         public String getFloorNo() {
                  return floorNo;
         }

         public void setFloorNo(String floorNo) {
                  this.floorNo = floorNo;
         }

         public String getRoomNo() {
                  return roomNo;
         }

         public void setRoomNo(String roomNo) {
                  this.roomNo = roomNo;
         }

   public int getSensorId() {
      return sensorId;
   }

   public void setSensorId(int sensorId) {
      this.sensorId = sensorId;
   }

   public int getCo2Level() {
      return co2Level;
   }

   public void setCo2Level(int co2Level) {
      this.co2Level = co2Level;
   }

   public int getSmokeLevel() {
      return smokeLevel;
   }
```

```java
   public void setSmokeLevel(int smokeLevel) {
      this.smokeLevel = smokeLevel;
   }

   public int getStatus() {
      return status;
   }

   public void setStatus(int status) {
      this.status = status;
   }

   @Override
   public String toString() {
      return "Sensor [sensorId=" + sensorId + ", co2Level=" + co2Level + ", smokeLevel=" + smokeLevel + ", status=" +
status + "]";
   }

}
```

SensorRepository.java

```java
package com.ds.firealarmrest.sensor;

import javax.ws.rs.core.Response;
import java.sql.*;
import java.util.ArrayList;
import java.util.List;

import com.ds.firealarmrest.DbConnection;

public class SensorRepository {

        /********* To get all sensor details from database ***********/

        public Response getSensors() {
                List<Sensor> sensors = new ArrayList<>();
                String sql = "select * from sensor"; // sql query for get all sensor details from database
                try {
                        Statement statement = DbConnection.getConnection().createStatement();//Get the database
connection
                        ResultSet result = statement.executeQuery(sql);
                        while (result.next()) {
                                Sensor sensor = new Sensor();
                                getSensorDetails(result, sensor); // call the getSensorDetails() method with
parameters
                                sensors.add(sensor);
                        }
                        return Response.status(Response.Status.OK).entity(sensors).build();//Print 200 ok response
code as a success message
                } catch (Exception e) {
                        return Response.status(Response.Status.INTERNAL_SERVER_ERROR).build();//Print 500
response code as a Internal Server error message
                }
        }
```

```
/********* To get sensor details for a selected Id from database ************/

public Response getSensor(int id) {

        String sql = "select * from sensor where sensorId=" + id; // sql query for get selected sensor detail from
database
        Sensor sensor = new Sensor();
        try {
                Statement statement = DbConnection.getConnection().createStatement();
                ResultSet result = statement.executeQuery(sql);
                if (result.next()) {
                        getSensorDetails(result, sensor); // call the getSensorDetails() method with
parameters
                        return Response.status(Response.Status.OK).entity(sensor).build();
                } else {
                        return Response.status(Response.Status.NOT_FOUND).entity("Invalid
Id").build();//Print 404 response code as a Not found error message
                }
        } catch (Exception e) {
                return Response.status(Response.Status.INTERNAL_SERVER_ERROR).build();
        }
}


/********* To insert sensor details to database ************/

public Response create(Sensor sensor) {
        // sql query for insert sensor details to database
        String sql = "insert into sensor(co2Level,smokeLevel,sensorstatus,floorNo,roomNo) values (?,?,?,?,?)";

        try {

                PreparedStatement statement = DbConnection.getConnection().prepareStatement(sql,
                                Statement.RETURN_GENERATED_KEYS);
                statement.setInt(1, sensor.getCo2Level());
                statement.setInt(2, sensor.getSmokeLevel());
                statement.setInt(3, sensor.getStatus());
                statement.setString(4, sensor.getFloorNo());
                statement.setString(5, sensor.getRoomNo());
                statement.executeUpdate();
                ResultSet generatedKeys = statement.getGeneratedKeys();
                if (generatedKeys.next()) {
                        int insertedId = generatedKeys.getInt(1);
                        return getSensor(insertedId);
                } else {
                        return Response.status(Response.Status.NOT_FOUND).entity("Invalid
Data").build();
                }
        } catch (Exception e) {
                return Response.status(Response.Status.INTERNAL_SERVER_ERROR).build();
        }
}

/********* To update sensor details of a selected sensor according to the sensor app from database
************/
/***** (In here smoke level and co2 level of selected sensor will only updated according to the sensor app)
******/
```

```java
public Response updateBySensor(Sensor sensor, int id) {
        // sql query for update sensor details of a selected sensor according to the sensor app from database
        String sql = "update sensor set co2Level=?, smokeLevel=? where sensorId=?";
        try {
                PreparedStatement statement = DbConnection.getConnection().prepareStatement(sql);
                statement.setInt(3, id);
                statement.setInt(1, sensor.getCo2Level());
                statement.setInt(2, sensor.getSmokeLevel());
                statement.executeUpdate();
                return getSensor(id);
        } catch (Exception e) {
                return Response.status(Response.Status.INTERNAL_SERVER_ERROR).build();
        }
}


/********* To update Floor number and Room number of a selected sensor by Admin from database
************/

public Response updateSensor(Sensor sensor, int id) {
        // sql query for update Floor number and Room number of a selected sensor by Admin from database
        String sql = "update sensor set sensorstatus=?, floorNo=?, roomNo=? where sensorId=?";
        try {
                PreparedStatement statement = DbConnection.getConnection().prepareStatement(sql);
                statement.setInt(4, id);
                statement.setInt(1, sensor.getStatus());
                statement.setString(2, sensor.getFloorNo());
                statement.setString(3, sensor.getRoomNo());
                statement.executeUpdate();
                return getSensor(id);
        } catch (Exception e) {
                return Response.status(Response.Status.INTERNAL_SERVER_ERROR).build();
        }
}

/********* To delete the details of a selected sensor by Admin from database  ************/

public Response delete(int id) {
        // sql query for delete the details of a selected sensor by Admin from database
        String sql = "delete from sensor where sensorId=?";
        try {
                PreparedStatement statement = DbConnection.getConnection().prepareStatement(sql);
                statement.setInt(1, id);
                statement.executeUpdate();
                //Print 202 response code as a Accepted success message with deleted sensor id
                return Response.status(Response.Status.ACCEPTED).entity(String.format("Deleted sensor
with id %d", id))
                                        .build();

        } catch (Exception e) {
                return Response.status(Response.Status.INTERNAL_SERVER_ERROR).build();
        }
}

// private method get Sensor Details which is used by getSensors() and getSensor(int id) methods
private void getSensorDetails(ResultSet result, Sensor sensor) throws SQLException {
        sensor.setSensorId(result.getInt(1));
        sensor.setCo2Level(result.getInt(2));
```

```
                    sensor.setSmokeLevel(result.getInt(3));
                    sensor.setStatus(result.getInt(4));
                    sensor.setFloorNo(result.getString(5));
                    sensor.setRoomNo(result.getString(6));
            }
}
```

SensorResources.java

```java
package com.ds.firealarmrest.sensor;

import javax.ws.rs.Consumes;
import javax.ws.rs.DELETE;
import javax.ws.rs.GET;
import javax.ws.rs.POST;
import javax.ws.rs.PUT;
import javax.ws.rs.Path;
import javax.ws.rs.PathParam;
import javax.ws.rs.Produces;
import javax.ws.rs.core.MediaType;
import javax.ws.rs.core.Response;

/******  APIs *******/
@Path("sensor")
public class SensorResources {

   private SensorRepository repository = new SensorRepository();

   /***** API for get sensor details *****/
   @GET
   @Produces({MediaType.APPLICATION_JSON})
   public Response getSensors() {
      return repository.getSensors();
   }

   /***** API for get sensor details for a given Id *****/
   @GET
   @Path("{sensorId}")
   @Produces({MediaType.APPLICATION_JSON})
   public Response getSensor(@PathParam("sensorId") int id) {
      return repository.getSensor(id);
   }

   /***** API for create sensor details *****/
   @POST
   @Consumes({MediaType.APPLICATION_JSON})
   @Produces({MediaType.APPLICATION_JSON})
   public Response createSensor(Sensor s1) {

      if (s1.getFloorNo() == null || s1.getRoomNo() == null)
         return Response.status(Response.Status.BAD_REQUEST).build();// print 400 response code for Bad Request error
msg
      else
         return repository.create(s1);
   }
```

```java
/***** API for update smoke level and co2 level generated by sensor app  *****/
@PUT
@Path("by/{sensorId}")
@Consumes({MediaType.APPLICATION_JSON})
@Produces({MediaType.APPLICATION_JSON})
public Response updateBySensor(@PathParam("sensorId") int id, Sensor s1) {
    return repository.updateBySensor(s1, id);
}


/***** API for update room number and floor number provided by Admin  *****/
@PUT
@Path("{sensorId}")
@Consumes({MediaType.APPLICATION_JSON})
@Produces({MediaType.APPLICATION_JSON})
public Response updateSensor(@PathParam("sensorId") int id, Sensor s1) {
    Response response = repository.getSensor(id);
    if (s1.getFloorNo() == null || s1.getRoomNo() == null)
        return Response.status(Response.Status.BAD_REQUEST).build();
    else if (response.getStatus() == Response.Status.OK.getStatusCode())
        return repository.updateSensor(s1, id);
    else
        return response;
}


/***** API for delete sensor details of a selected sensor  *****/
@DELETE
@Path("{sensorId}")
@Produces({MediaType.APPLICATION_JSON})
public Response deleteSensor(@PathParam("sensorId") int id) {
    Response response = repository.getSensor(id);
    if (response.getStatus() == Response.Status.OK.getStatusCode())
        return repository.delete(id);
    else return response;
}
}
```

User.java

```java
package com.ds.firealarmrest.user;

import javax.xml.bind.annotation.XmlRootElement;

/****************** User Model class ******************/
@XmlRootElement
public class User {
    private String firstName;
    private String lastName;
    private String userName;
    private String email;
    private String password;
    private int isAdmin;
    private int userId;
```

```java
    public void setFirstName(String firstName) {
        this.firstName = firstName;
    }

    public void setLastName(String lastName) {
        this.lastName = lastName;
    }

    public void setIsAdmin(int isAdmin) {
        this.isAdmin = isAdmin;
    }

    public String getFirstName() {
        return firstName;
    }

    public String getLastName() {
        return lastName;
    }

    public int getIsAdmin() {
        return isAdmin;
    }

    public int getUserId() {
        return userId;
    }

    public void setUserId(int userId) {
        this.userId = userId;
    }

        public String getUserName() {
                return userName;
        }

        public void setUserName(String userName) {
                this.userName = userName;
        }

        public String getPassword() {
                return password;
        }

        public void setPassword(String password) {
                this.password = password;
        }

        public String getEmail() {
                return email;
        }

        public void setEmail(String email) {
                this.email = email;
        }
}
```

UserRepository.java

```java
package com.ds.firealarmrest.user;

import java.math.BigInteger;
import java.security.MessageDigest;
import java.security.NoSuchAlgorithmException;
import java.sql.*;
import javax.ws.rs.core.Response;

import com.ds.firealarmrest.DbConnection;

public class UserRepository {

    /********* To validate the user when login to the system ************/
    public Response login(String userName, String password) {
        User user = new User();
        //sql query to check user name and password from database
        String sql = "select * from registeredusers where userName='" + userName + "'";
        try {
            Statement statement = DbConnection.getConnection().createStatement();
            ResultSet result = statement.executeQuery(sql);
            if (result.next()) {
                if ((getMd5(password).equals(result.getString(6)))) { // Todo: need to user MD5
                    user.setFirstName(result.getString(2));
                    user.setLastName(result.getString(3));
                    user.setIsAdmin(result.getInt(7));
                    user.setUserId(result.getInt(1));
                    return Response.status(Response.Status.OK).entity(user).build(); // Print
200 ok response code as a success message
                } else {
                    return Response.status(Response.Status.OK).entity("Invalid
password").build();// print error msg when password is incorrect
                }
            } else {
                return Response.status(Response.Status.OK).entity("Invalid
userName").build();//print error msg when user name is invalid
            }
        } catch (SQLException e) {
            return Response.status(Response.Status.INTERNAL_SERVER_ERROR).build();// Print 500
response code as a Internal Server error message
        }
    }

    /***** To encrypt the password *****/
    public static String getMd5(String input) {
        try {
            MessageDigest md = MessageDigest.getInstance("MD5");
            byte[] messageDigest = md.digest(input.getBytes());
            BigInteger no = new BigInteger(1, messageDigest);
            String hashPassword = no.toString(16);
            while (hashPassword.length() < 32) {
                hashPassword = "0" + hashPassword;
            }
            return hashPassword;
        } catch (NoSuchAlgorithmException e) {
            throw new RuntimeException(e);
```

```
                }
            }

        /***** To register a user to the system *****/
        public Response Registeruser(User user) {
    // sql query to insert a user to the database
                String sql = "insert into registeredusers(firstName,lastName,userName,email,Password) values
(?,?,?,?,?)";
                try {
                        System.out.println("user try");
                        PreparedStatement statement = DbConnection.getConnection().prepareStatement(sql,
                                Statement.RETURN_GENERATED_KEYS);

                        statement.setString(1, user.getFirstName());
                        statement.setString(2, user.getLastName());
                        statement.setString(3, user.getUserName());
                        statement.setString(4, user.getEmail());
                        statement.setString(5, user.getPassword());
//                      statement.setString(5, getMd5(user.getPassword()));
                        statement.executeUpdate();
//          ResultSet generatedKeys = statement.getGeneratedKeys();
//          if (generatedKeys.next()) {
//              int insertedId = generatedKeys.getInt(1);
//              //return getSensor(insertedId);
//              return getUser(insertedId);
//          } else {
//              return Response.status(Response.Status.NOT_FOUND).entity("Invalid Data").build();
                                return Response.status(Response.Status.OK).entity(user).build();
//          }
                } catch (Exception e) {
                        return Response.status(Response.Status.INTERNAL_SERVER_ERROR).build();
                }
            }
}
```

UserResources.java

```
package com.ds.firealarmrest.user;

import javax.ws.rs.Consumes;
import javax.ws.rs.GET;
import javax.ws.rs.POST;
import javax.ws.rs.Path;
import javax.ws.rs.Produces;
import javax.ws.rs.QueryParam;
import javax.ws.rs.core.MediaType;
import javax.ws.rs.core.Response;

import com.ds.firealarmrest.sensor.Sensor;

/*** APIs *****/

@Path("user")
public class UserResources {
    private UserRepository repository = new UserRepository();
```

```java
/***** API for get user name and password when logging to the system  *****/
@GET
@Produces({MediaType.APPLICATION_JSON})
public Response login(@QueryParam("userName") String userName, @QueryParam("password") String password) {
    return repository.login(userName, password);
}

/***** API for create user to register to the system  *****/
@POST
@Consumes({MediaType.APPLICATION_JSON})
@Produces({MediaType.APPLICATION_JSON})
public Response createUser(User u1) {
//      if (u1.getFirstName() == null || u1.getLastName() == null || u1.getUserName() == null || u1.getEmail()==null ||
u1.getPassword() == null )
//          return Response.status(Response.Status.BAD_REQUEST).build();
//      else
        return repository.Registeruser(u1);
    }
}
```

Web.xml

```xml
<?xml version="1.0" encoding="UTF-8"?>
<!-- This web.xml file is not required when using Servlet 3.0 container,
    see implementation details http://jersey.java.net/nonav/documentation/latest/jax-rs.html -->
<web-app version="2.5" xmlns="http://java.sun.com/xml/ns/javaee" xmlns:xsi="http://www.w3.org/2001/XMLSchema-
instance" xsi:schemaLocation="http://java.sun.com/xml/ns/javaee http://java.sun.com/xml/ns/javaee/web-app_2_5.xsd">
    <servlet>
        <servlet-name>Jersey Web Application</servlet-name>
        <servlet-class>org.glassfish.jersey.servlet.ServletContainer</servlet-class>
        <init-param>
            <param-name>jersey.config.server.provider.packages</param-name>
            <param-value>com.ds.firealarmrest</param-value>

            <!-- <param-name>com.sun.jersey.spi.container.ContainerResponseFilters</param-name>
            <param-value>com.ds.firealarmrest.CORSFilter</param-value> -->
        </init-param>
        <load-on-startup>1</load-on-startup>
    </servlet>
    <servlet-mapping>
        <servlet-name>Jersey Web Application</servlet-name>
        <url-pattern>/webapi/*</url-pattern>
    </servlet-mapping>

</web-app>
```

index.jsp

```html
<html>
<body>
    <h2>Jersey RESTful Web Application!</h2>
    <p><a href="webapi/myresource">Jersey resource</a>
```

```
    <p>Visit <a href="http://jersey.java.net">Project Jersey website</a>
    for more information on Jersey!
</body>
</html>
```

pom.xml

```xml
<project xmlns="http://maven.apache.org/POM/4.0.0"
         xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
         xsi:schemaLocation="http://maven.apache.org/POM/4.0.0 http://maven.apache.org/maven-v4_0_0.xsd">

    <modelVersion>4.0.0</modelVersion>

    <groupId>com.ds</groupId>
    <artifactId>firealarmrest</artifactId>
    <packaging>war</packaging>
    <version>0.0.1-SNAPSHOT</version>
    <name>firealarmrest</name>

    <build>
        <finalName>firealarmrest</finalName>
        <plugins>
            <plugin>
                <groupId>org.apache.maven.plugins</groupId>
                <artifactId>maven-compiler-plugin</artifactId>
                <version>2.5.1</version>
                <inherited>true</inherited>
                <configuration>
                    <source>1.7</source>
                    <target>1.7</target>
                </configuration>
            </plugin>
        </plugins>
    </build>

    <dependencyManagement>
        <dependencies>
            <dependency>
                <groupId>org.glassfish.jersey</groupId>
                <artifactId>jersey-bom</artifactId>
                <version>${jersey.version}</version>
                <type>pom</type>
                <scope>import</scope>
            </dependency>
        </dependencies>
    </dependencyManagement>

    <dependencies>
        <dependency>
            <groupId>org.glassfish.jersey.containers</groupId>
            <artifactId>jersey-container-servlet-core</artifactId>
            <!-- use the following artifactId if you don't need servlet 2.x compatibility -->
            <!-- artifactId>jersey-container-servlet</artifactId -->
        </dependency>
        <dependency>
            <groupId>org.glassfish.jersey.inject</groupId>
            <artifactId>jersey-hk2</artifactId>
```

```xml
            </dependency>

            <dependency>
                    <groupId>org.glassfish.jersey.media</groupId>
                    <artifactId>jersey-media-json-binding</artifactId>
            </dependency>



            <!-- https://mvnrepository.com/artifact/mysql/mysql-connector-java -->
            <dependency>
                    <groupId>mysql</groupId>
                    <artifactId>mysql-connector-java</artifactId>
                    <version>8.0.19</version>
            </dependency>


    </dependencies>
    <properties>
            <jersey.version>2.30.1</jersey.version>
            <project.build.sourceEncoding>UTF-8</project.build.sourceEncoding>
    </properties>
</project>
```

2.2 Web Client

App.js

```javascript
import React, { Component } from 'react';

import './App.css';

class App extends Component {
  constructor(props) {
    super(props);
    this.state = { sensors: [] } // store sensor details
  }

  componentDidMount() {
   this.updateSensorData();

   this.timerID = setInterval(
     () => this.updateSensorData(),
     40000 // to refresh the sensor details in every 40 seconds
   );
  }

  componentWillUnmount() {
   clearInterval(this.timerID);
  }
```

```jsx
updateSensorData() {

    const url = "/firealarmrest/webapi/sensor"; // API call for get the sensor details
    fetch(url)
     .then(response => response.json())
     .then(json => this.setState({ sensors: json }));
}


render() {
    const { sensors } = this.state;
    return (

    <div className = "container-fluid">
        <div className = "jumbotron-custom">
         <h1 className = "display-4">Sensor Dashbord</h1>
        </div>

        <div className="row">

         {
           sensors.map((sensor) => (
             <div className="col-xl-4 col-lg-5 col-md-6 col-sm-12">
              <div className={sensor.status===1 ? "card" : "card disabled" }>
               <div className="card-body">
                <div className="header">
                    {/*change the color according to the sensor status whether it is active or not*/}
                    <div className={sensor.status===1 ? "led green" : "led red" } title={sensor.status===1 ? "Sensor is
Working" : "Sensor Disabled"}></div>
                    <h5 className="card-title">Floor #{ sensor.floorNo } - Room #{ sensor.roomNo }</h5>
                </div>
                <div className="body">
                 <p className="sensor-id">Sensor ID: <span>{ sensor.sensorId }</span></p>
                 <div className="row">
                  <div className="col-md-6">
                   Co2 Level : {sensor.status===1 ? sensor.co2Level : "Disabled"}
                   <div className="progress">
                    <div className={sensor.co2Level<4 ? "progress-bar bg-success"
                    : (sensor.co2Level<5 ? "progress-bar bg-warning" : "progress-bar bg-danger")} role="progressbar"
                    style={{"width": sensor.status===1 ? ((sensor.co2Level)*10 + "%") : "0%"}}
                    aria-valuenow={ sensor.status===1 ? sensor.co2Level : 0 }
                    aria-valuemin="0" aria-valuemax="10">{sensor.status===1 ? (sensor.co2Level)*10 + "%" :
""}</div>

                   </div>
                  </div>
                  <div className="col-md-6">
                   Smoke Level : {sensor.status===1 ? sensor.smokeLevel : "Disabled"}
                   <div className="progress">
                    <div className={sensor.smokeLevel<4 ? "progress-bar bg-success"
                    : (sensor.smokeLevel<5 ? "progress-bar bg-warning" : "progress-bar bg-danger")}
role="progressbar"
                    style={{"width": sensor.status===1 ? ((sensor.smokeLevel)*10 + "%") : "0%"}}
                    aria-valuenow={ sensor.status===1 ? sensor.smokeLevel : 0 }
                    aria-valuemin="0" aria-valuemax="10">{sensor.status===1 ? (sensor.smokeLevel)*10 + "%" :
""}</div>

                   </div>
                  </div>
```

```
                </div>
              </div>
            </div>
          </div>
        ))
      }

    </div>
  </div>
);
}




}
export default App;
```

index.html

```html
<!DOCTYPE html>
<html lang="en">

<head>
  <meta charset="utf-8" />
  <link rel="icon" href="%PUBLIC_URL%/favicon.ico" />
  <meta name="viewport" content="width=device-width, initial-scale=1" />
  <meta name="theme-color" content="#000000" />
  <meta name="description" content="Web site created using create-react-app" />
  <link rel="apple-touch-icon" href="%PUBLIC_URL%/sensorLogo.png" />
  <!--
    manifest.json provides metadata used when your web app is installed on a
    user's mobile device or desktop. See https://developers.google.com/web/fundamentals/web-app-manifest/
  -->
  <link rel="manifest" href="%PUBLIC_URL%/manifest.json" />
  <link rel="stylesheet" href="https://stackpath.bootstrapcdn.com/bootstrap/4.4.1/css/bootstrap.min.css">
  <link rel="stylesheet" href="/src/index.css" />

  <!--
    Notice the use of %PUBLIC_URL% in the tags above.
    It will be replaced with the URL of the `public` folder during the build.
    Only files inside the `public` folder can be referenced from the HTML.

    Unlike "/favicon.ico" or "favicon.ico", "%PUBLIC_URL%/favicon.ico" will
    work correctly both with client-side routing and a non-root public URL.
    Learn how to configure a non-root public URL by running `npm run build`.

  -->
  <!-- <script src="https://code.jquery.com/jquery-3.4.1.slim.min.js" integrity="sha384-
J6qa4849blE2+poT4WnyKhv5vZF5SrPo0iEjwBvKU7imGFAV0wwj1yYfoRSJoZ+n" crossorigin="anonymous"></script>
  <script src="https://cdn.jsdelivr.net/npm/popper.js@1.16.0/dist/umd/popper.min.js" integrity="sha384-
Q6E9RHvbIyZFJoft+2mJbHaEWldlvI9IOYy5n3zV9zzTtmI3UksdQRVvoxMfooAo" crossorigin="anonymous"></script>
```

```
    <script src="https://stackpath.bootstrapcdn.com/bootstrap/4.4.1/js/bootstrap.min.js" integrity="sha384-
wfSDF2E50Y2D1uUdj0O3uMBJnjuUD4Ih7YwaYd1iqfktj0Uod8GCExl3Og8ifwB6" crossorigin="anonymous"></script>--
>

    <title>Sensor Dashbord</title>
</head>

<body>
    <noscript>You need to enable JavaScript to run this app.</noscript>
    <div id="root"></div>
    <!--
      This HTML file is a template.
      If you open it directly in the browser, you will see an empty page.

      You can add webfonts, meta tags, or analytics to this file.
      The build step will place the bundled scripts into the <body> tag.

      To begin the development, run `npm start` or `yarn start`.
      To create a production bundle, use `npm run build` or `yarn build`.
    -->
</body>

</html>
```

2.3 Sensor App

App.js

```
import React, { Component } from 'react';

import './App.css';

class App extends Component {

 constructor(props) {
  super(props);
  this.state = { sensors: [] } // store sensor details
  this.updateCount = 0;
  this.updatedSensors = { sensors: [] }; // store update sensor details
  }


  componentDidMount() {
   this.timerID = setInterval(
     () => this.getSensorData(),
     5000 // to change the smoke level and co2 level of a randomly selected sensor in every 5 seconds
   );
  }

  componentWillUnmount() {
   clearInterval(this.timerID); // clear the randomly selected sensor details recursively
  }
```

```
getSensorData() { // for get sensor details
  if(this.updateCount===0){
    const url = "/firealarmrest/webapi/sensor"; // call the API for get sensor details
    fetch(url)
      .then(response => response.json())
      .then((responseJson)=>{
        this.setState({ sensors: responseJson });
        this.updateSensorData();
      });
  }else{
    this.updateSensorData();
  }
  this.updateCount++; // increase the update count by 1
  if(this.updateCount===5){
    this.updateCount=0; // set the update count value to 0
  }
}

updateSensorData() {
  const { sensors } = this.state;
  let randomSensor = sensors[Math.floor(Math.random() * Math.floor(sensors.length))]; // get randomly selected sensor
  let randomSensorId = randomSensor.sensorId; // get the Id of the randomly selected sensor and assign it to
randomSensorId

  let requestBody = {
    co2Level : Math.floor(Math.random() * 10) + 1, // generate a co2 level value between 0 and 10
    smokeLevel : Math.floor(Math.random() * 10) + 1 // generate a smoke level value between 0 and 10
  }

  //call the API for update co2 level and smoke level of randomly selected sensor
  const url = "/firealarmrest/webapi/sensor/by/"+randomSensorId;

  const requestOptions = {
    method: 'PUT',
    headers: { 'Content-Type': 'application/json' },
    body: JSON.stringify(requestBody)
  };
  fetch(url, requestOptions)
    .then(response => response.json())
    .then((updatedSensor)=>{
      this.showUpdatedSensor(updatedSensor); // show the updates sensor details
    });
}

showUpdatedSensor(updatedSensor){
  this.updatedSensors.sensors.push(updatedSensor);
}


render() {
  const { sensors } = this.updatedSensors;
  return (

    <div className = "container-fluid">
      <div className = "jumbotron">
        <h1 className = "display-4">Mock Sensor</h1>
      </div>
```

```jsx
            <div className="row code">

                {
                    sensors.map((sensor) => (
                        <div className="col-sm-12">
                            //print the updated co2 level snd smoke level values
                            <p>Co2 Level: { sensor.co2Level }, Smoke Level: {sensor.smokeLevel} </p>
                        </div>
                    ))
                }

            </div>
        </div>
    );
}




}
export default App;
```

index.html

```html
<!DOCTYPE html>
<html lang="en">

<head>
    <meta charset="utf-8" />
    <link rel="icon" href="%PUBLIC_URL%/favicon.ico" />
    <meta name="viewport" content="width=device-width, initial-scale=1" />
    <meta name="theme-color" content="#000000" />
    <meta name="description" content="Web site created using create-react-app" />
    <link rel="apple-touch-icon" href="%PUBLIC_URL%/sensorLogo.png" />
    <!--
      manifest.json provides metadata used when your web app is installed on a
      user's mobile device or desktop. See https://developers.google.com/web/fundamentals/web-app-manifest/
    -->
    <link rel="manifest" href="%PUBLIC_URL%/manifest.json" />
    <link rel="stylesheet" href="https://stackpath.bootstrapcdn.com/bootstrap/4.4.1/css/bootstrap.min.css">
    <link rel="stylesheet" href="/src/index.css" />

    <!--
      Notice the use of %PUBLIC_URL% in the tags above.
      It will be replaced with the URL of the `public` folder during the build.
      Only files inside the `public` folder can be referenced from the HTML.

      Unlike "/favicon.ico" or "favicon.ico", "%PUBLIC_URL%/favicon.ico" will
      work correctly both with client-side routing and a non-root public URL.
      Learn how to configure a non-root public URL by running `npm run build`.

    -->
    <!-- <script src="https://code.jquery.com/jquery-3.4.1.slim.min.js" integrity="sha384-
J6qa4849blE2+poT4WnyKhv5vZF5SrPo0iEjwBvKU7imGFAV0wwj1yYfoRSJoZ+n" crossorigin="anonymous"></script>
    <script src="https://cdn.jsdelivr.net/npm/popper.js@1.16.0/dist/umd/popper.min.js" integrity="sha384-
Q6E9RHvbIyZFJoft+2mJbHaEWldlvI9IOYy5n3zV9zzTtmI3UksdQRVvoxMfooAo" crossorigin="anonymous"></script>
```

```
    <script src="https://stackpath.bootstrapcdn.com/bootstrap/4.4.1/js/bootstrap.min.js" integrity="sha384-
wfSDF2E50Y2D1uUdj0O3uMBJnjuUD4Ih7YwaYd1iqfktj0Uod8GCExl3Og8ifwB6" crossorigin="anonymous"></script>--
>

    <title>Sensor Dashbord</title>
</head>

<body>
    <noscript>You need to enable JavaScript to run this app.</noscript>
    <div id="root"></div>
    <!--
      This HTML file is a template.
      If you open it directly in the browser, you will see an empty page.

      You can add web fonts, meta tags, or analytics to this file.
      The build step will place the bundled scripts into the <body> tag.

      To begin the development, run `npm start` or `yarn start`.
      To create a production bundle, use `npm run build` or `yarn build`.
    -->
</body>

</html>
```

2.4 RMI

(01)FireAlarmModels

__AllSensorDetails.java__

```
package FireAlarmModels;

import java.io.Serializable;

/**
 *
 * @author DELL
 */

/*** Model class for all sensor details ***/
public class AllSensorDetails implements Serializable{

    private static int Id;
    private static String floorNo;
```

```java
    private static String roomNo;
    private static int co2Level;
    private static int smokeLevel;
    private static boolean sensorStatus;


    /*** default constructor ***/
    public AllSensorDetails() {
    }

    /*** override constructor with parameters ***/
    public AllSensorDetails(int Id, String floorNo, String roomNo, int co2Level, int smokeLevels) {
        this.Id = Id;
        this.floorNo = floorNo;
        this.roomNo = roomNo;
        this.co2Level = co2Level;
        this.smokeLevel = smokeLevel;
        //this.sensorStatus = sensorStatus;
    }

    /********************** getters and setters ***************************/
    public static int getId() {
        return Id;
    }

    public  void setId(int Id) {
        this.Id = Id;
    }

    public static String getFloorNo() {
        return floorNo;
    }

    public void setFloorNo(String floorNo) {
        this.floorNo = floorNo;
    }

    public static String getRoomNo() {
        return roomNo;
    }

    public void setRoomNo(String roomNo) {
        this.roomNo = roomNo;
    }

    public static int getCo2Level() {
        return co2Level;
    }

    public void setCo2Level(int co2Level) {
        this.co2Level = co2Level;
    }

    public static int getSmokeLevel() {
        return smokeLevel;
    }

    public void setSmokeLevel(int smokeLevel) {
```

```java
        this.smokeLevel = smokeLevel;
    }

//    public static boolean isSensorStatus() {
//        return sensorStatus;
//    }
//
//    public void setSensorStatus(boolean sensorStatus) {
//        this.sensorStatus = sensorStatus;
//    }
}
```

DesktopClient.java

```java
package FireAlarmModels;

import java.io.Serializable;

/**
 *
 * @author DELL
 */

/*** model class for Desktop Client ***/
public class DesktopClient implements Serializable{

    private int Id;
    private String firstName;
    private String lastName;
    private String email;
    private String userName;
    private String password;
    private String userType;

    /*** default constructor ***/
    public DesktopClient() {
    }

    /*** override constructor with parameters ***/
    public DesktopClient(int Id, String firstName, String lastName,String email, String userName, String password, String
userType) {
        this.Id = Id;
        this.firstName = firstName;
        this.lastName = lastName;
        this.email = email;
        this.userName = userName;
        this.password = password;
        this.userType = userType;
    }

    /********************** getters and setters **************************/
    public int getId() {
        return Id;
    }

    public void setId(int Id) {
        this.Id = Id;
```

```java
    }

    public String getFirstName() {
        return firstName;
    }

    public void setFirstName(String firstName) {
        this.firstName = firstName;
    }

    public String getLastName() {
        return lastName;
    }

    public void setLastName(String lastName) {
        this.lastName = lastName;
    }

    public String getEmail() {
        return email;
    }

    public void setEmail(String email) {
        this.email = email;
    }
    public String getUserName() {
        return userName;
    }

    public void setUserName(String userName) {
        this.userName = userName;
    }

    public String getPassword() {
        return password;
    }

    public void setPassword(String password) {
        this.password = password;
    }
    public String getUserType() {
        return userType;
    }

    public void setUserType(String userType) {
        this.userType = userType;
    }

}
```

Sensors.java

```java
package FireAlarmModels;

import java.io.Serializable;
```

```java
/**
 *
 * @author DELL
 */

/**************Model class for sensor details without room number and floor number*********************/
public class Sensors implements Serializable{

    private int sensorId;
    private int smokeValue;
    private int co2Value;
    private boolean status;

    /*** default constructor ***/
    public Sensors() {
    }

    /*** override constructor with parameters ***/
    public Sensors(int sensorId, int smokeValue, int co2Value,boolean status) {
        this.sensorId = sensorId;
        this.smokeValue = smokeValue;
        this.co2Value = co2Value;
        this.status = status;
    }

    /*********************** getters and setters ***************************/
    public int getSensorId() {
        return sensorId;
    }

    public void setSensorId(int sensorId) {
        this.sensorId = sensorId;
    }

    public int getSmokeValue() {
        return smokeValue;
    }

    public void setSmokeValue(int smokeValue) {
        this.smokeValue = smokeValue;
    }

    public int getCo2Value() {
        return co2Value;
    }

    public void setCo2Value(int co2Value) {
        this.co2Value = co2Value;
    }

    public boolean isStatus() {
        return status;
    }

    public void setStatus(boolean status) {
        this.status = status;
    }
```

}

(02) fireAlarmSensor

DesktopClient.java

```java
package fireAlarmSensor;

import FireAlarmViews.Home;
import fireAlarmSensor.FireAlarm;
import java.net.MalformedURLException;
import java.rmi.NotBoundException;
import java.rmi.RemoteException;
import java.rmi.registry.LocateRegistry;
import java.rmi.registry.Registry;
import java.util.Scanner;
import javax.swing.JFrame;

/**
 *
 * @author DELL
 */

//desktop client invocation
public class DesktopClient extends JFrame {

    /**
     * @param args the command line arguments
     */

    private static FireAlarm lookUp;

    public static void main(String[] args) throws MalformedURLException, RemoteException, NotBoundException {
        DesktopClient client = new DesktopClient();
        client.connectRemote();

        //JFrame frame = new JFrame();
        Home home=new Home();
        home.setVisible(true);
    }

    private void connectRemote() throws RemoteException, NotBoundException {

        Registry reg = LocateRegistry.getRegistry("localhost", 9999);
        lookUp =(FireAlarm) reg.lookup("Desktop client success");



    }
}
```

FireAlarm.java

package fireAlarmSensor;

import FireAlarmModels.AllSensorDetails;
import FireAlarmModels.Sensors;
import FireAlarmModels.DesktopClient;

import java.rmi.Remote;
import java.rmi.RemoteException;
import java.util.List;
import org.json.simple.JSONArray;

/**
 *
 * @author DELL
 */

/************Fire alarm interface*****************/
public interface FireAlarm extends Remote {

    /******abstract methods which are implemented in server.java class******/
    DesktopClient getAllUsers(DesktopClient user) throws RemoteException;
    List<DesktopClient> allUserDetails() throws RemoteException;

    Sensors getAllSensor(Sensors sensor)throws RemoteException;
    List<Sensors> allSensorDetails() throws RemoteException;

    List<AllSensorDetails> allRetrieveDetails() throws RemoteException;
    public String addSensors(String floorNo,String roomNo) throws RemoteException;

}

Server.java

package fireAlarmSensor;

import FireAlarmModels.AllSensorDetails;
import FireAlarmModels.Sensors;
import FireAlarmModels.DesktopClient;
import EmailService.Json;
import fireAlarmSensor.FireAlarm;
import java.io.IOException;
import java.net.MalformedURLException;
import java.net.URL;

import java.rmi.RemoteException;
import java.rmi.registry.LocateRegistry;
import java.rmi.registry.Registry;
import java.rmi.server.UnicastRemoteObject;
import java.util.ArrayList;
import java.util.List;
import java.util.function.Predicate;
import java.util.logging.Level;
import java.util.logging.Logger;
import org.json.simple.JSONArray;

```java
import org.json.simple.JSONObject;
import org.json.simple.parser.JSONParser;
import java.net.HttpURLConnection;
import org.json.simple.parser.ParseException;

/**
 *
 * @author DELL
 */

/*** RMI server to call APIs to create connection between desktop client and rest API ***/
public class Server extends UnicastRemoteObject implements FireAlarm{

    private List<DesktopClient> usersList;
    private List<Sensors> sensorsList;
    private List<AllSensorDetails> fetchAllSensorDetailsList;
    //private List<JSONArray> jsonArrayList;

    public Server() throws RemoteException
    {
        super();
        StartInitialize();
    }

    private void StartInitialize() {

        usersList = new ArrayList<>();      //create list for store users
        sensorsList= new ArrayList<>();     //create list for store sensor details.
        fetchAllSensorDetailsList = new ArrayList<>(); //create list for all sensor details
        //jsonArrayList = new ArrayList<>();
        ServerUpdate(); //to call the ServerUpdate() method to refresh the data in every 30 seconds.
    }


    @Override
    public DesktopClient getAllUsers(DesktopClient user) throws RemoteException {

        Predicate<DesktopClient> predicate = x -> x.getId()==(user.getId());
        return usersList.stream().filter(predicate).findFirst().get();
    }

    /*** to get the userList ***/
    @Override
    public List<DesktopClient> allUserDetails() {
        return usersList;
    }

    @Override
    public Sensors getAllSensor(Sensors sensor) throws RemoteException {
        Predicate<Sensors> predicate = x -> x.getSensorId() == sensor.getSensorId();
        return sensorsList.stream().filter(predicate).findFirst().get();
    }

    /*** to get the sensorsList ***/
    @Override
    public List<Sensors> allSensorDetails() {
        return sensorsList;
    }
```

```java
    /*** to get the fetchAllSensorDetailsList ***/
    @Override
    public List<AllSensorDetails> allRetrieveDetails() {
        return fetchAllSensorDetailsList;
    }

//    @Override
//    public List<JSONArray> allRetrieveSensorDetails() {
//        return jsonArrayList;
//    }
//
    /*** to refresh data in every 30 seconds ***/
    private void ServerUpdate() {
      System.out.println("*************  Server Updated Successfully ***********");
      Thread thread = new Thread(new Runnable() {

        @Override
        public void run() {
          try {

            ApiJSONCalls();
            Thread.sleep(30000);
            ServerUpdate();
          } catch (Exception e) {
            e.printStackTrace();
          }

        }
      }
      );

      thread.start();

    }

    //for add registered sensors.
    @Override
    public String addSensors(String floorNo,String roomNo)throws RemoteException{
      try {

          //System.out.println("Floor :"+floorNo+ "room :"+roomNo);

          URL url=new URL("http://localhost:8080/firealarmrest/webapi/sensor/");

          HttpURLConnection con=  (HttpURLConnection)url.openConnection();
          con.setRequestMethod("POST");
          con.setRequestProperty("Content-Type", "application/json");
          con.setRequestProperty("Accept", "application/json");
          con.setDoOutput(true);

      } catch (MalformedURLException ex) {
        Logger.getLogger(Server.class.getName()).log(Level.SEVERE, null, ex);
      } catch (IOException ex) {
        Logger.getLogger(Server.class.getName()).log(Level.SEVERE, null, ex);
      }
      return null; //tempory return value.
    }
```

```java
    //for update registered sensors by Admin.
    public void updateSensorInfobyAdmin(int id){
        String updateSensor = new Json().Request("http://localhost:8080/firealarmrest/webapi/sensor/id");
    }

    //for delete registered sensors by Admin.
    public void deleteRegisteredSensor(int id){
        String deleteSensor = new Json().Request("http://localhost:8080/firealarmrest/webapi/sensor/id");
    }

    //for update the randomly selected sensor details according to the co2 level and smoke level which is randomly generated
by sensor app
    public void updateSensorInfobySensorApp(){
        String refreshSensor = new Json().Request("http://localhost:8080/firealarmrest/webapi/sensor/id");
    }



    //for add users into the system
    public String addUsers(String fName, String lName, String email, String uName, String pw){
        String newUser = new Json().Request("http://localhost:8080/firealarmrest/webapi/user");

        try{
          URL url=new URL("http://localhost:8080/firealarmrest/webapi/user");

            HttpURLConnection con =  (HttpURLConnection)url.openConnection();
            con.setRequestMethod("POST");
            con.setRequestProperty("Content-Type", "application/json");
            con.setRequestProperty("Accept", "application/json");
            con.setDoOutput(true);
            } catch (MalformedURLException ex) {
          Logger.getLogger(Server.class.getName()).log(Level.SEVERE, null, ex);
        } catch (IOException ex) {
          Logger.getLogger(Server.class.getName()).log(Level.SEVERE, null, ex);
        }
      return newUser;
    }


  //retrieve all the sensor details from database through APIs calls by JSON.
  public void ApiJSONCalls() throws ParseException {

/*****************************AllSensorDetails JSON *****************************************/

      String AllRetrieveSensorDetails = new Json().Request("http://localhost:8080/firealarmrest/webapi/sensor");

    //System.out.println(AllRetrieveSensorDetails);
    if (AllRetrieveSensorDetails != null) {
      try {
          System.out.println("******** Get All Sensor Details ********");
          JSONParser Parser = new JSONParser();
          JSONArray jsonArray = (JSONArray) Parser.parse(AllRetrieveSensorDetails);

           //System.out.println("Before clear:"+fetchAllSensorDetailsList);
           fetchAllSensorDetailsList.clear();
          //System.out.println("After clear:"+fetchAllSensorDetailsList);

          for (Object object : jsonArray) {
```

```
                    //System.out.println("Object :"+object);
                     JSONObject jsonObject = (JSONObject) object;

                     fetchAllSensorDetailsList.add(
                          new AllSensorDetails(
                               Integer.parseInt(jsonObject.get("sensorId").toString()),
                               jsonObject.get("floorNo").toString(),
                               jsonObject.get("roomNo").toString(),
                               Integer.parseInt(jsonObject.get("co2Level").toString()),
                               Integer.parseInt(jsonObject.get("smokeLevel").toString())
                               //Boolean.parseBoolean(jsonObject.get("sensorstatus").toString())
                          )
                     );

                     for(AllSensorDetails sensor : fetchAllSensorDetailsList){
                         System.out.println(sensor.getId());
                         System.out.println(sensor.getFloorNo());
                         System.out.println(sensor.getRoomNo());
                         System.out.println(sensor.getCo2Level());
                         System.out.println(sensor.getSmokeLevel());
                         //System.out.println(sensor.isSensorStatus());
                     }

                }

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

    }

    public static void main(String[] args) throws RemoteException
    {
      try
      {
        Registry registry = LocateRegistry.createRegistry(9999);
        registry.rebind("Success", new Server());
        System.out.println("Server is running");

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

    }
}
```

(03)EmailService

EmailBody.java

```
/*
 * To change this license header, choose License Headers in Project Properties.
 * To change this template file, choose Tools | Templates
```

```
 * and open the template in the editor.
 */
package EmailService;

/**
 *
 * @author DELL
 */

/*** used to send an email ***/
public class EmailBody {

    String username=null;
    String password=null;

    public EmailBody recieveEmailInfo(){
        EmailBody body=new EmailBody();
        body.username="dsassignment2dreamteam2020@gmail.com";
        body.password="ds2020@#";

        return body;
    }
}
```

pom.xml

```xml
<?xml version="1.0" encoding="UTF-8"?>

<project xmlns="http://maven.apache.org/POM/4.0.0" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xsi:schemaLocation="http://maven.apache.org/POM/4.0.0 http://maven.apache.org/xsd/maven-4.0.0.xsd">
  <modelVersion>4.0.0</modelVersion>

  <groupId>com.app</groupId>
  <artifactId>emailapp</artifactId>
  <version>0.0.1-SNAPSHOT</version>

  <name>emailapp</name>
  <!-- FIXME change it to the project's website -->
  <url>http://www.example.com</url>

  <properties>
    <project.build.sourceEncoding>UTF-8</project.build.sourceEncoding>
    <maven.compiler.source>1.7</maven.compiler.source>
    <maven.compiler.target>1.7</maven.compiler.target>
  </properties>

  <dependencies>
    <dependency>
      <groupId>junit</groupId>
      <artifactId>junit</artifactId>
      <version>4.11</version>
      <scope>test</scope>
    </dependency>

    <dependency>
      <groupId>com.sun.mail</groupId>
      <artifactId>javax.mail</artifactId>
```

```xml
      <version>1.6.2</version>
    </dependency>
  </dependencies>

  <build>
    <pluginManagement><!-- lock down plugins versions to avoid using Maven defaults (may be moved to parent pom) -->
      <plugins>
        <!-- clean lifecycle, see https://maven.apache.org/ref/current/maven-core/lifecycles.html#clean_Lifecycle -->
        <plugin>
          <artifactId>maven-clean-plugin</artifactId>
          <version>3.1.0</version>
        </plugin>
        <!-- default lifecycle, jar packaging: see https://maven.apache.org/ref/current/maven-core/default-bindings.html#Plugin_bindings_for_jar_packaging -->
        <plugin>
          <artifactId>maven-resources-plugin</artifactId>
          <version>3.0.2</version>
        </plugin>
        <plugin>
          <artifactId>maven-compiler-plugin</artifactId>
          <version>3.8.0</version>
        </plugin>
        <plugin>
          <artifactId>maven-surefire-plugin</artifactId>
          <version>2.22.1</version>
        </plugin>
        <plugin>
          <artifactId>maven-jar-plugin</artifactId>
          <version>3.0.2</version>
        </plugin>
        <plugin>
          <artifactId>maven-install-plugin</artifactId>
          <version>2.5.2</version>
        </plugin>
        <plugin>
          <artifactId>maven-deploy-plugin</artifactId>
          <version>2.8.2</version>
        </plugin>
        <!-- site lifecycle, see https://maven.apache.org/ref/current/maven-core/lifecycles.html#site_Lifecycle -->
        <plugin>
          <artifactId>maven-site-plugin</artifactId>
          <version>3.7.1</version>
        </plugin>
        <plugin>
          <artifactId>maven-project-info-reports-plugin</artifactId>
          <version>3.0.0</version>
        </plugin>
      </plugins>
    </pluginManagement>
  </build>
</project>
```

SendAnEmail.java

```java
/*
 * To change this license header, choose License Headers in Project Properties.
 * To change this template file, choose Tools | Templates
```

```java
 * and open the template in the editor.
 */
package EmailService;



import java.util.Properties;
import javax.mail.Authenticator;
import javax.mail.Message;
import javax.mail.PasswordAuthentication;
import javax.mail.Session;
import javax.mail.Transport;
import javax.mail.internet.InternetAddress;
import javax.mail.internet.MimeMessage;

/**
 *
 * @author DELL
 */
public class SendAnEmail {

    /*** to send an email to desktop client when the co2 Level or smoke Level values goes up ***/
    public void sendSensorAlert(String Emailsbjct, String mailReciever, String hardcodemsg) {
        new Thread(new Runnable() {

            @Override
            public void run() {
                try {

                    final String emailAddress = new EmailBody().recieveEmailInfo().username;
                    final String emailPassword = new EmailBody().recieveEmailInfo().password;

                    Properties properties = new Properties();
                    properties.put("mail.smtp.auth", "true");
                    properties.put("mail.smtp.starttls.enable", "true");
                    properties.put("mail.smtp.host", "smtp.gmail.com");
                    properties.put("mail.smtp.port", "587");

                    Session session = Session.getDefaultInstance(properties,
                            new Authenticator() {
                                protected PasswordAuthentication getPasswordAuthentication() {
                                    // return new PasswordAuthentication(
                                        // new EmailBody().recieveEmailInfo().username, new
EmailBody().recieveEmailInfo().password);

                                    /////////////////////////////////////
                                    /*String un=new EmailBody().recieveEmailInfo().username;
                                    String pw=new EmailBody().recieveEmailInfo().password;
                                    PasswordAuthentication passwordAuthentication= new PasswordAuthentication(un,pw);
                                    return passwordAuthentication;*/
                                    /////////////////////////////////////
                                    PasswordAuthentication passwordAuthentication= new
PasswordAuthentication(emailAddress,emailPassword);
                                    return passwordAuthentication;
                                }
                            });
                    Message msg = new MimeMessage(session);
                    msg.setFrom(new InternetAddress(emailAddress));
                    //msg.setRecipients(Message.RecipientType.TO, InternetAddress.parse(mailReciever));
```

```
                    msg.setRecipients(Message.RecipientType.TO, InternetAddress.parse("sawandiudeshitha1997@gmail.com"));

                    msg.setSubject(Emailsbjct);
                    msg.setContent(hardcodemsg, "text/html;charset=utf-8");

                    Transport.send(msg);

                } catch (Exception e) {

                    e.printStackTrace();
                }
            }
        }).start();
    }
}
```

SendEmailViaGmail.java

```java
/*
 * To change this license header, choose License Headers in Project Properties.
 * To change this template file, choose Tools | Templates
 * and open the template in the editor.
 */
package EmailService;

import javax.mail.Message;
import java.util.Properties;
import javax.mail.PasswordAuthentication;
import javax.mail.Session;
import javax.mail.MessagingException;
import javax.mail.Transport;
import javax.mail.internet.InternetAddress;
import javax.mail.internet.MimeMessage;
/**
 *
 * @author DELL
 */
public class SendEmailViaGmail {
    public static void main(String[] args) {

                final String username="dsassignment2dreamteam2020@gmail.com";
                final String password="ds2020@#";

                Properties prop = new Properties();
                prop.put("mail.smtp.host", "smtp.gmail.com");
                prop.put("mail.smtp.post", "465");
                prop.put("mail.smtp.auth", "true");
                prop.put("mail.smtp.socketFactory.port", "465");
                prop.put("mail.smtp.socketFactory.class", "javax.net.ssl.SSLSocketFactory");

                Session session = Session.getInstance(prop, new javax.mail.Authenticator() {
                        protected PasswordAuthentication getPasswordAuthentication() {
                                return new PasswordAuthentication(username, password);
                        }

                });
```

```
                        try {
                                Message message = new MimeMessage(session);
                                message.setFrom(new InternetAddress(username));
                                message.setRecipients(Message.RecipientType.TO,
InternetAddress.parse("sawandiudeshitha1997@gmail.com"));
                                message.setSubject("Fire Alarm Sensor Alert");
                                message.setText("Dear User, \n\n Alert: CO2 level or Smoke level is moves to a value greater
than 5");

                                Transport.send(message);
                                System.out.println("Email send successfully");

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

                        }
                }
}
```

json.java

```java
/*
 * To change this license header, choose License Headers in Project Properties.
 * To change this template file, choose Tools | Templates
 * and open the template in the editor.
 */
package EmailService;

import java.io.BufferedReader;
import java.io.InputStream;
import java.io.InputStreamReader;
import java.net.HttpURLConnection;
import java.net.URL;

/**
 *
 * @author DELL
 */
public class Json {

    public String Request(String jsonurl) {
        String responseOfJson = null;

        try {
            URL url = new URL(jsonurl);
            HttpURLConnection httpUrlCon = (HttpURLConnection) url.openConnection();
            if (httpUrlCon.getResponseCode() == 200) {
                InputStream inputStream = httpUrlCon.getInputStream();
                InputStreamReader streamReader = new InputStreamReader(inputStream);
                BufferedReader bufferReader = new BufferedReader(streamReader);
                String readline = bufferReader.readLine();
                responseOfJson = readline;
            }
        } catch (Exception e) {
            e.printStackTrace();
        }
```

```
        return responseOfJson;
    }
}
```

(04)FireAlarmViews

FireAlarmRegistration.form

```xml
<?xml version="1.0" encoding="UTF-8" ?>

<Form version="1.3" maxVersion="1.9" type="org.netbeans.modules.form.forminfo.JFrameFormInfo">
  <NonVisualComponents>
    <Container class="javax.swing.JPanel" name="jPanel2">

      <Layout>
        <DimensionLayout dim="0">
          <Group type="103" groupAlignment="0" attributes="0">
            <EmptySpace min="0" pref="100" max="32767" attributes="0"/>
          </Group>
        </DimensionLayout>
        <DimensionLayout dim="1">
          <Group type="103" groupAlignment="0" attributes="0">
            <EmptySpace min="0" pref="100" max="32767" attributes="0"/>
          </Group>
        </DimensionLayout>
      </Layout>
    </Container>
  </NonVisualComponents>
  <Properties>
    <Property name="defaultCloseOperation" type="int" value="3"/>
    <Property name="undecorated" type="boolean" value="true"/>
  </Properties>
  <SyntheticProperties>
    <SyntheticProperty name="formSizePolicy" type="int" value="1"/>
    <SyntheticProperty name="generateCenter" type="boolean" value="false"/>
  </SyntheticProperties>
  <AuxValues>
    <AuxValue name="FormSettings_autoResourcing" type="java.lang.Integer" value="0"/>
    <AuxValue name="FormSettings_autoSetComponentName" type="java.lang.Boolean" value="false"/>
    <AuxValue name="FormSettings_generateFQN" type="java.lang.Boolean" value="true"/>
    <AuxValue name="FormSettings_generateMnemonicsCode" type="java.lang.Boolean" value="false"/>
    <AuxValue name="FormSettings_i18nAutoMode" type="java.lang.Boolean" value="false"/>
    <AuxValue name="FormSettings_layoutCodeTarget" type="java.lang.Integer" value="1"/>
    <AuxValue name="FormSettings_listenerGenerationStyle" type="java.lang.Integer" value="0"/>
    <AuxValue name="FormSettings_variablesLocal" type="java.lang.Boolean" value="false"/>
    <AuxValue name="FormSettings_variablesModifier" type="java.lang.Integer" value="2"/>
  </AuxValues>

  <Layout>
    <DimensionLayout dim="0">
      <Group type="103" groupAlignment="0" attributes="0">
```

```
            <Component id="jPanel1" min="-2" max="-2" attributes="0"/>
            <Component id="jPanel3" min="-2" max="-2" attributes="0"/>
          </Group>
        </DimensionLayout>
        <DimensionLayout dim="1">
          <Group type="103" groupAlignment="0" attributes="0">
            <Group type="102" attributes="0">
              <Component id="jPanel1" min="-2" max="-2" attributes="0"/>
              <EmptySpace min="0" pref="0" max="-2" attributes="0"/>
              <Component id="jPanel3" min="-2" max="-2" attributes="0"/>
            </Group>
          </Group>
        </DimensionLayout>
      </Layout>
      <SubComponents>
        <Container class="javax.swing.JPanel" name="jPanel1">
          <Properties>
            <Property name="background" type="java.awt.Color" editor="org.netbeans.beaninfo.editors.ColorEditor">
              <Color blue="54" green="16" red="ff" type="rgb"/>
            </Property>
          </Properties>

          <Layout>
            <DimensionLayout dim="0">
              <Group type="103" groupAlignment="0" attributes="0">
                <Group type="102" alignment="0" attributes="0">
                  <EmptySpace min="-2" pref="38" max="-2" attributes="0"/>
                  <Component id="jLabel1" min="-2" pref="277" max="-2" attributes="0"/>
                  <EmptySpace pref="85" max="32767" attributes="0"/>
                  <Component id="jLabel2Minimize" min="-2" pref="26" max="-2" attributes="0"/>
                  <EmptySpace type="unrelated" max="-2" attributes="0"/>
                  <Component id="jLabel3Close" min="-2" pref="26" max="-2" attributes="0"/>
                  <EmptySpace min="-2" pref="26" max="-2" attributes="0"/>
                </Group>
              </Group>
            </DimensionLayout>
            <DimensionLayout dim="1">
              <Group type="103" groupAlignment="0" attributes="0">
                <Group type="102" alignment="0" attributes="0">
                  <EmptySpace max="-2" attributes="0"/>
                  <Group type="103" groupAlignment="3" attributes="0">
                    <Component id="jLabel1" alignment="3" max="32767" attributes="0"/>
                    <Component id="jLabel2Minimize" alignment="3" pref="34" max="32767" attributes="0"/>
                    <Component id="jLabel3Close" alignment="3" max="32767" attributes="0"/>
                  </Group>
                  <EmptySpace max="-2" attributes="0"/>
                </Group>
              </Group>
            </DimensionLayout>
          </Layout>
          <SubComponents>
            <Component class="javax.swing.JLabel" name="jLabel1">
              <Properties>
                <Property name="font" type="java.awt.Font" editor="org.netbeans.beaninfo.editors.FontEditor">
                  <Font name="Tahoma" size="24" style="1"/>
                </Property>
                <Property name="foreground" type="java.awt.Color" editor="org.netbeans.beaninfo.editors.ColorEditor">
                  <Color blue="ff" green="ff" red="ff" type="rgb"/>
```

```
      </Property>
      <Property name="text" type="java.lang.String" value="Register a Fire Alarm"/>
     </Properties>
    </Component>
    <Component class="javax.swing.JLabel" name="jLabel2Minimize">
     <Properties>
      <Property name="font" type="java.awt.Font" editor="org.netbeans.beaninfo.editors.FontEditor">
       <Font name="Tahoma" size="24" style="1"/>
      </Property>
      <Property name="foreground" type="java.awt.Color" editor="org.netbeans.beaninfo.editors.ColorEditor">
       <Color blue="ff" green="ff" red="ff" type="rgb"/>
      </Property>
      <Property name="text" type="java.lang.String" value=" -"/>
      <Property name="cursor" type="java.awt.Cursor" editor="org.netbeans.modules.form.editors2.CursorEditor">
       <Color id="Hand Cursor"/>
      </Property>
     </Properties>
     <Events>
      <EventHandler event="mouseClicked" listener="java.awt.event.MouseListener"
parameters="java.awt.event.MouseEvent" handler="jLabel2MinimizeMouseClicked"/>
     </Events>
    </Component>
    <Component class="javax.swing.JLabel" name="jLabel3Close">
     <Properties>
      <Property name="font" type="java.awt.Font" editor="org.netbeans.beaninfo.editors.FontEditor">
       <Font name="Tahoma" size="24" style="1"/>
      </Property>
      <Property name="foreground" type="java.awt.Color" editor="org.netbeans.beaninfo.editors.ColorEditor">
       <Color blue="ff" green="ff" red="ff" type="rgb"/>
      </Property>
      <Property name="text" type="java.lang.String" value="X"/>
      <Property name="cursor" type="java.awt.Cursor" editor="org.netbeans.modules.form.editors2.CursorEditor">
       <Color id="Hand Cursor"/>
      </Property>
     </Properties>
     <Events>
      <EventHandler event="mouseClicked" listener="java.awt.event.MouseListener"
parameters="java.awt.event.MouseEvent" handler="jLabel3CloseMouseClicked"/>
     </Events>
    </Component>
   </SubComponents>
  </Container>
  <Container class="javax.swing.JPanel" name="jPanel3">
   <Properties>
    <Property name="background" type="java.awt.Color" editor="org.netbeans.beaninfo.editors.ColorEditor">
     <Color blue="3b" green="22" red="22" type="rgb"/>
    </Property>
    <Property name="foreground" type="java.awt.Color" editor="org.netbeans.beaninfo.editors.ColorEditor">
     <Color blue="f4" green="f2" red="ed" type="rgb"/>
    </Property>
    <Property name="font" type="java.awt.Font" editor="org.netbeans.beaninfo.editors.FontEditor">
     <Font name="Tahoma" size="18" style="0"/>
    </Property>
   </Properties>

   <Layout>
    <DimensionLayout dim="0">
     <Group type="103" groupAlignment="0" attributes="0">
```

```
          <Group type="102" alignment="0" attributes="0">
            <EmptySpace min="-2" pref="33" max="-2" attributes="0"/>
            <Group type="103" groupAlignment="0" max="-2" attributes="0">
              <Component id="jLabel4" pref="130" max="32767" attributes="0"/>
              <Component id="jLabel5" max="32767" attributes="0"/>
            </Group>
            <Group type="103" groupAlignment="0" attributes="0">
              <Group type="102" alignment="0" attributes="0">
                <EmptySpace min="-2" pref="9" max="-2" attributes="0"/>
                <Component id="CancelBtn" min="-2" pref="80" max="-2" attributes="0"/>
                <EmptySpace min="-2" pref="59" max="-2" attributes="0"/>
                <Component id="SensorRegButton" min="-2" pref="80" max="-2" attributes="0"/>
                <EmptySpace min="0" pref="0" max="32767" attributes="0"/>
              </Group>
              <Group type="102" alignment="0" attributes="0">
                <EmptySpace max="-2" attributes="0"/>
                <Group type="103" groupAlignment="0" attributes="0">
                  <Component id="RoomNo" max="32767" attributes="0"/>
                  <Component id="FloorNo" max="32767" attributes="0"/>
                </Group>
              </Group>
            </Group>
            <EmptySpace pref="99" max="32767" attributes="0"/>
          </Group>
        </Group>
      </DimensionLayout>
      <DimensionLayout dim="1">
        <Group type="103" groupAlignment="0" attributes="0">
          <Group type="102" alignment="0" attributes="0">
            <EmptySpace min="-2" pref="79" max="-2" attributes="0"/>
            <Group type="103" groupAlignment="3" attributes="0">
              <Component id="jLabel5" alignment="3" min="-2" pref="38" max="-2" attributes="0"/>
              <Component id="FloorNo" alignment="3" max="32767" attributes="0"/>
            </Group>
            <EmptySpace type="separate" max="-2" attributes="0"/>
            <Group type="103" groupAlignment="3" attributes="0">
              <Component id="jLabel4" alignment="3" min="-2" pref="41" max="-2" attributes="0"/>
              <Component id="RoomNo" alignment="3" max="32767" attributes="0"/>
            </Group>
            <EmptySpace type="separate" max="-2" attributes="0"/>
            <Group type="103" groupAlignment="3" attributes="0">
              <Component id="CancelBtn" alignment="3" min="-2" pref="37" max="-2" attributes="0"/>
              <Component id="SensorRegButton" alignment="3" min="-2" pref="37" max="-2" attributes="0"/>
            </Group>
            <EmptySpace min="-2" pref="59" max="-2" attributes="0"/>
          </Group>
        </Group>
      </DimensionLayout>
    </Layout>
    <SubComponents>
      <Component class="javax.swing.JLabel" name="jLabel4">
        <Properties>
          <Property name="background" type="java.awt.Color" editor="org.netbeans.beaninfo.editors.ColorEditor">
            <Color blue="f4" green="f2" red="ed" type="rgb"/>
          </Property>
          <Property name="font" type="java.awt.Font" editor="org.netbeans.beaninfo.editors.FontEditor">
            <Font name="Tahoma" size="18" style="0"/>
          </Property>
```

```xml
          <Property name="foreground" type="java.awt.Color" editor="org.netbeans.beaninfo.editors.ColorEditor">
            <Color blue="f4" green="f2" red="ed" type="rgb"/>
          </Property>
          <Property name="text" type="java.lang.String" value="Room Number :"/>
        </Properties>
      </Component>
      <Component class="javax.swing.JLabel" name="jLabel5">
        <Properties>
          <Property name="background" type="java.awt.Color" editor="org.netbeans.beaninfo.editors.ColorEditor">
            <Color blue="f4" green="f2" red="ed" type="rgb"/>
          </Property>
          <Property name="font" type="java.awt.Font" editor="org.netbeans.beaninfo.editors.FontEditor">
            <Font name="Tahoma" size="18" style="0"/>
          </Property>
          <Property name="foreground" type="java.awt.Color" editor="org.netbeans.beaninfo.editors.ColorEditor">
            <Color blue="f4" green="f2" red="ed" type="rgb"/>
          </Property>
          <Property name="text" type="java.lang.String" value="Floor Number  :"/>
        </Properties>
      </Component>
      <Component class="javax.swing.JTextField" name="FloorNo">
        <Properties>
          <Property name="background" type="java.awt.Color" editor="org.netbeans.beaninfo.editors.ColorEditor">
            <Color blue="72" green="64" red="5e" type="rgb"/>
          </Property>
          <Property name="font" type="java.awt.Font" editor="org.netbeans.beaninfo.editors.FontEditor">
            <Font name="Tahoma" size="18" style="0"/>
          </Property>
          <Property name="foreground" type="java.awt.Color" editor="org.netbeans.beaninfo.editors.ColorEditor">
            <Color blue="ac" green="9d" red="97" type="rgb"/>
          </Property>
        </Properties>
      </Component>
      <Component class="javax.swing.JButton" name="CancelBtn">
        <Properties>
          <Property name="background" type="java.awt.Color" editor="org.netbeans.beaninfo.editors.ColorEditor">
            <Color blue="36" green="1d" red="e7" type="rgb"/>
          </Property>
          <Property name="font" type="java.awt.Font" editor="org.netbeans.beaninfo.editors.FontEditor">
            <Font name="Tahoma" size="14" style="1"/>
          </Property>
          <Property name="foreground" type="java.awt.Color" editor="org.netbeans.beaninfo.editors.ColorEditor">
            <Color blue="ff" green="ff" red="ff" type="rgb"/>
          </Property>
          <Property name="text" type="java.lang.String" value="Cancel"/>
        </Properties>
        <Events>
          <EventHandler event="mouseClicked" listener="java.awt.event.MouseListener"
parameters="java.awt.event.MouseEvent" handler="CancelBtnMouseClicked"/>
          <EventHandler event="actionPerformed" listener="java.awt.event.ActionListener"
parameters="java.awt.event.ActionEvent" handler="CancelBtnActionPerformed"/>
        </Events>
      </Component>
      <Component class="javax.swing.JButton" name="SensorRegButton">
        <Properties>
          <Property name="background" type="java.awt.Color" editor="org.netbeans.beaninfo.editors.ColorEditor">
            <Color blue="ff" green="86" red="3a" type="rgb"/>
          </Property>
        </Property>
```

```xml
        <Property name="font" type="java.awt.Font" editor="org.netbeans.beaninfo.editors.FontEditor">
          <Font name="Tahoma" size="14" style="1"/>
        </Property>
        <Property name="foreground" type="java.awt.Color" editor="org.netbeans.beaninfo.editors.ColorEditor">
          <Color blue="ff" green="ff" red="ff" type="rgb"/>
        </Property>
        <Property name="text" type="java.lang.String" value="ADD"/>
      </Properties>
      <Events>
        <EventHandler event="mouseClicked" listener="java.awt.event.MouseListener"
parameters="java.awt.event.MouseEvent" handler="SensorRegButtonMouseClicked"/>
        <EventHandler event="actionPerformed" listener="java.awt.event.ActionListener"
parameters="java.awt.event.ActionEvent" handler="SensorRegButtonActionPerformed"/>
      </Events>
    </Component>
    <Component class="javax.swing.JTextField" name="RoomNo">
      <Properties>
        <Property name="background" type="java.awt.Color" editor="org.netbeans.beaninfo.editors.ColorEditor">
          <Color blue="72" green="64" red="5e" type="rgb"/>
        </Property>
        <Property name="font" type="java.awt.Font" editor="org.netbeans.beaninfo.editors.FontEditor">
          <Font name="Tahoma" size="18" style="0"/>
        </Property>
        <Property name="foreground" type="java.awt.Color" editor="org.netbeans.beaninfo.editors.ColorEditor">
          <Color blue="ac" green="9d" red="97" type="rgb"/>
        </Property>
      </Properties>
    </Component>
  </SubComponents>
  </Container>
  </SubComponents>
</Form>
```

FireAlarmRegistration.java

```java
package FireAlarmViews;

import FireAlarmModels.AllSensorDetails;
import fireAlarmSensor.Server;
import java.rmi.RemoteException;
import java.util.logging.Level;
import java.util.logging.Logger;
import javax.swing.JFrame;
import javax.swing.JOptionPane;

/**
 *
 * @author DELL
 */
public class FireAlarmRegistration extends javax.swing.JFrame {

    /**
     * Creates new RegisterForm
     */
    public FireAlarmRegistration() {
        initComponents();
```

```java
        this.setLocationRelativeTo(null);//to center the form in the screen
}

/**
 * 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">//GEN-BEGIN:initComponents
private void initComponents() {

    jPanel2 = new javax.swing.JPanel();
    jPanel1 = new javax.swing.JPanel();
    jLabel1 = new javax.swing.JLabel();
    jLabel2Minimize = new javax.swing.JLabel();
    jLabel3Close = new javax.swing.JLabel();
    jPanel3 = new javax.swing.JPanel();
    jLabel4 = new javax.swing.JLabel();
    jLabel5 = new javax.swing.JLabel();
    FloorNo = new javax.swing.JTextField();
    CancelBtn = new javax.swing.JButton();
    SensorRegButton = new javax.swing.JButton();
    RoomNo = new javax.swing.JTextField();

    javax.swing.GroupLayout jPanel2Layout = new javax.swing.GroupLayout(jPanel2);
    jPanel2.setLayout(jPanel2Layout);
    jPanel2Layout.setHorizontalGroup(
        jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
        .addGap(0, 100, Short.MAX_VALUE)
    );
    jPanel2Layout.setVerticalGroup(
        jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
        .addGap(0, 100, Short.MAX_VALUE)
    );

    setDefaultCloseOperation(javax.swing.WindowConstants.EXIT_ON_CLOSE);
    setUndecorated(true);

    jPanel1.setBackground(new java.awt.Color(255, 22, 84));

    jLabel1.setFont(new java.awt.Font("Tahoma", 1, 24)); // NOI18N
    jLabel1.setForeground(new java.awt.Color(255, 255, 255));
    jLabel1.setText("Register a Fire Alarm");

    jLabel2Minimize.setFont(new java.awt.Font("Tahoma", 1, 24)); // NOI18N
    jLabel2Minimize.setForeground(new java.awt.Color(255, 255, 255));
    jLabel2Minimize.setText(" -");
    jLabel2Minimize.setCursor(new java.awt.Cursor(java.awt.Cursor.HAND_CURSOR));
    jLabel2Minimize.addMouseListener(new java.awt.event.MouseAdapter() {
        public void mouseClicked(java.awt.event.MouseEvent evt) {
            jLabel2MinimizeMouseClicked(evt);
        }
    });

    jLabel3Close.setFont(new java.awt.Font("Tahoma", 1, 24)); // NOI18N
    jLabel3Close.setForeground(new java.awt.Color(255, 255, 255));
    jLabel3Close.setText("X");
```

```java
        jLabel3Close.setCursor(new java.awt.Cursor(java.awt.Cursor.HAND_CURSOR));
        jLabel3Close.addMouseListener(new java.awt.event.MouseAdapter() {
            public void mouseClicked(java.awt.event.MouseEvent evt) {
                jLabel3CloseMouseClicked(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()
                .addGap(38, 38, 38)
                .addComponent(jLabel1, javax.swing.GroupLayout.PREFERRED_SIZE, 277,
javax.swing.GroupLayout.PREFERRED_SIZE)
                .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED, 85, Short.MAX_VALUE)
                .addComponent(jLabel2Minimize, javax.swing.GroupLayout.PREFERRED_SIZE, 26,
javax.swing.GroupLayout.PREFERRED_SIZE)
                .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.UNRELATED)
                .addComponent(jLabel3Close, javax.swing.GroupLayout.PREFERRED_SIZE, 26,
javax.swing.GroupLayout.PREFERRED_SIZE)
                .addGap(26, 26, 26))
        );
        jPanel1Layout.setVerticalGroup(
            jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addGroup(jPanel1Layout.createSequentialGroup()
                .addContainerGap()
                .addGroup(jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELINE)
                    .addComponent(jLabel1, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)
                    .addComponent(jLabel2Minimize, javax.swing.GroupLayout.DEFAULT_SIZE, 34, Short.MAX_VALUE)
                    .addComponent(jLabel3Close, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE))
                .addContainerGap())
        );

        jPanel3.setBackground(new java.awt.Color(34, 34, 59));
        jPanel3.setForeground(new java.awt.Color(237, 242, 244));
        jPanel3.setFont(new java.awt.Font("Tahoma", 0, 18)); // NOI18N

        jLabel4.setBackground(new java.awt.Color(237, 242, 244));
        jLabel4.setFont(new java.awt.Font("Tahoma", 0, 18)); // NOI18N
        jLabel4.setForeground(new java.awt.Color(237, 242, 244));
        jLabel4.setText("Room Number :");

        jLabel5.setBackground(new java.awt.Color(237, 242, 244));
        jLabel5.setFont(new java.awt.Font("Tahoma", 0, 18)); // NOI18N
        jLabel5.setForeground(new java.awt.Color(237, 242, 244));
        jLabel5.setText("Floor Number  :");

        FloorNo.setBackground(new java.awt.Color(94, 100, 114));
        FloorNo.setFont(new java.awt.Font("Tahoma", 0, 18)); // NOI18N
        FloorNo.setForeground(new java.awt.Color(151, 157, 172));

        CancelBtn.setBackground(new java.awt.Color(231, 29, 54));
        CancelBtn.setFont(new java.awt.Font("Tahoma", 1, 14)); // NOI18N
        CancelBtn.setForeground(new java.awt.Color(255, 255, 255));
        CancelBtn.setText("Cancel");
```

```java
        CancelBtn.addMouseListener(new java.awt.event.MouseAdapter() {
            public void mouseClicked(java.awt.event.MouseEvent evt) {
                CancelBtnMouseClicked(evt);
            }
        });
        CancelBtn.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                CancelBtnActionPerformed(evt);
            }
        });

        SensorRegButton.setBackground(new java.awt.Color(58, 134, 255));
        SensorRegButton.setFont(new java.awt.Font("Tahoma", 1, 14)); // NOI18N
        SensorRegButton.setForeground(new java.awt.Color(255, 255, 255));
        SensorRegButton.setText("ADD");
        SensorRegButton.addMouseListener(new java.awt.event.MouseAdapter() {
            public void mouseClicked(java.awt.event.MouseEvent evt) {
                SensorRegButtonMouseClicked(evt);
            }
        });
        SensorRegButton.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                SensorRegButtonActionPerformed(evt);
            }
        });

        RoomNo.setBackground(new java.awt.Color(94, 100, 114));
        RoomNo.setFont(new java.awt.Font("Tahoma", 0, 18)); // NOI18N
        RoomNo.setForeground(new java.awt.Color(151, 157, 172));

        javax.swing.GroupLayout jPanel3Layout = new javax.swing.GroupLayout(jPanel3);
        jPanel3.setLayout(jPanel3Layout);
        jPanel3Layout.setHorizontalGroup(
            jPanel3Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addGroup(jPanel3Layout.createSequentialGroup()
                .addGap(33, 33, 33)
                .addGroup(jPanel3Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING, false)
                    .addComponent(jLabel4, javax.swing.GroupLayout.DEFAULT_SIZE, 130, Short.MAX_VALUE)
                    .addComponent(jLabel5, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE))
                .addGroup(jPanel3Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                    .addGroup(jPanel3Layout.createSequentialGroup()
                        .addGap(9, 9, 9)
                        .addComponent(CancelBtn, javax.swing.GroupLayout.PREFERRED_SIZE, 80,
javax.swing.GroupLayout.PREFERRED_SIZE)
                        .addGap(59, 59, 59)
                        .addComponent(SensorRegButton, javax.swing.GroupLayout.PREFERRED_SIZE, 80,
javax.swing.GroupLayout.PREFERRED_SIZE)
                        .addGap(0, 0, Short.MAX_VALUE))
                    .addGroup(jPanel3Layout.createSequentialGroup()
                        .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)
                        .addGroup(jPanel3Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                            .addComponent(RoomNo)
                            .addComponent(FloorNo))))
                .addContainerGap(99, Short.MAX_VALUE))
        );
        jPanel3Layout.setVerticalGroup(
            jPanel3Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
```

```
        .addGroup(jPanel3Layout.createSequentialGroup()
          .addGap(79, 79, 79)
          .addGroup(jPanel3Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELINE)
            .addComponent(jLabel5, javax.swing.GroupLayout.PREFERRED_SIZE, 38,
javax.swing.GroupLayout.PREFERRED_SIZE)
            .addComponent(FloorNo))
          .addGap(18, 18, 18)
          .addGroup(jPanel3Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELINE)
            .addComponent(jLabel4, javax.swing.GroupLayout.PREFERRED_SIZE, 41,
javax.swing.GroupLayout.PREFERRED_SIZE)
            .addComponent(RoomNo))
          .addGap(18, 18, 18)
          .addGroup(jPanel3Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELINE)
            .addComponent(CancelBtn, javax.swing.GroupLayout.PREFERRED_SIZE, 37,
javax.swing.GroupLayout.PREFERRED_SIZE)
            .addComponent(SensorRegButton, javax.swing.GroupLayout.PREFERRED_SIZE, 37,
javax.swing.GroupLayout.PREFERRED_SIZE))
          .addGap(59, 59, 59))
    );

    javax.swing.GroupLayout layout = new javax.swing.GroupLayout(getContentPane());
    getContentPane().setLayout(layout);
    layout.setHorizontalGroup(
      layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
      .addComponent(jPanel1, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE)
      .addComponent(jPanel3, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE)
    );
    layout.setVerticalGroup(
      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)
        .addGap(0, 0, 0)
        .addComponent(jPanel3, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE))
    );

    pack();
  }// </editor-fold>//GEN-END:initComponents

  private void jLabel3CloseMouseClicked(java.awt.event.MouseEvent evt) {//GEN-
FIRST:event_jLabel3CloseMouseClicked
    System.exit(0);
  }//GEN-LAST:event_jLabel3CloseMouseClicked

  private void jLabel2MinimizeMouseClicked(java.awt.event.MouseEvent evt) {//GEN-
FIRST:event_jLabel2MinimizeMouseClicked
    this.setState(JFrame.ICONIFIED);
  }//GEN-LAST:event_jLabel2MinimizeMouseClicked

  private void CancelBtnActionPerformed(java.awt.event.ActionEvent evt) {//GEN-
FIRST:event_CancelBtnActionPerformed
    // TODO add your handling code here:
  }//GEN-LAST:event_CancelBtnActionPerformed
```

```java
    private void SensorRegButtonActionPerformed(java.awt.event.ActionEvent evt) {//GEN-
FIRST:event_SensorRegButtonActionPerformed
        // TODO add your handling code here:
    }//GEN-LAST:event_SensorRegButtonActionPerformed

    private void CancelBtnMouseClicked(java.awt.event.MouseEvent evt) {//GEN-FIRST:event_CancelBtnMouseClicked
        // to load the Home page
        Home rgf = new Home();
        rgf.setVisible(true);
        rgf.pack();
        rgf.setLocationRelativeTo(null);
        rgf.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
        this.dispose();
    }//GEN-LAST:event_CancelBtnMouseClicked

    private void SensorRegButtonMouseClicked(java.awt.event.MouseEvent evt) {//GEN-
FIRST:event_SensorRegButtonMouseClicked
        // to get the floor number and room number from sensor registration and set the variables
        String floorNo= FloorNo.getText();
        String roomNo= RoomNo.getText();
        //System.out.println(floorNo+roomNo);

        try {
            Server server = new Server();
            server.addSensors(floorNo,roomNo);//pass the floor number and room number to register the sensor

        } catch (RemoteException ex) {
            ex.printStackTrace();
        }

    }//GEN-LAST:event_SensorRegButtonMouseClicked

    /**
     * @param args the command line arguments
     */
    public static void main(String args[]) {

        java.awt.EventQueue.invokeLater(new Runnable() {
            public void run() {

                new FireAlarmRegistration().setVisible(true);
            }
        });
    }

    // Variables declaration - do not modify//GEN-BEGIN:variables
    private javax.swing.JButton CancelBtn;
    private javax.swing.JTextField FloorNo;
    private javax.swing.JTextField RoomNo;
    private javax.swing.JButton SensorRegButton;
    private javax.swing.JLabel jLabel1;
    private javax.swing.JLabel jLabel2Minimize;
    private javax.swing.JLabel jLabel3Close;
    private javax.swing.JLabel jLabel4;
    private javax.swing.JLabel jLabel5;
    private javax.swing.JPanel jPanel1;
    private javax.swing.JPanel jPanel2;
    private javax.swing.JPanel jPanel3;
```

```
    // End of variables declaration//GEN-END:variables
}
```

Home.form

```xml
<?xml version="1.0" encoding="UTF-8" ?>

<Form version="1.3" maxVersion="1.9" type="org.netbeans.modules.form.forminfo.JFrameFormInfo">
  <Properties>
    <Property name="defaultCloseOperation" type="int" value="3"/>
    <Property name="cursor" type="java.awt.Cursor" editor="org.netbeans.modules.form.editors2.CursorEditor">
      <Color id="Default Cursor"/>
    </Property>
    <Property name="undecorated" type="boolean" value="true"/>
  </Properties>
  <SyntheticProperties>
    <SyntheticProperty name="formSizePolicy" type="int" value="1"/>
    <SyntheticProperty name="generateCenter" type="boolean" value="false"/>
  </SyntheticProperties>
  <AuxValues>
    <AuxValue name="FormSettings_autoResourcing" type="java.lang.Integer" value="0"/>
    <AuxValue name="FormSettings_autoSetComponentName" type="java.lang.Boolean" value="false"/>
    <AuxValue name="FormSettings_generateFQN" type="java.lang.Boolean" value="true"/>
    <AuxValue name="FormSettings_generateMnemonicsCode" type="java.lang.Boolean" value="false"/>
    <AuxValue name="FormSettings_i18nAutoMode" type="java.lang.Boolean" value="false"/>
    <AuxValue name="FormSettings_layoutCodeTarget" type="java.lang.Integer" value="1"/>
    <AuxValue name="FormSettings_listenerGenerationStyle" type="java.lang.Integer" value="0"/>
    <AuxValue name="FormSettings_variablesLocal" type="java.lang.Boolean" value="false"/>
    <AuxValue name="FormSettings_variablesModifier" type="java.lang.Integer" value="2"/>
  </AuxValues>

  <Layout>
    <DimensionLayout dim="0">
      <Group type="103" groupAlignment="0" attributes="0">
        <Component id="jPanel2" alignment="0" max="32767" attributes="0"/>
        <Component id="jPanel1" alignment="0" max="32767" attributes="0"/>
      </Group>
    </DimensionLayout>
    <DimensionLayout dim="1">
      <Group type="103" groupAlignment="0" attributes="0">
        <Group type="102" attributes="0">
          <EmptySpace min="115" pref="115" max="-2" attributes="0"/>
          <Component id="jPanel2" min="-2" max="-2" attributes="0"/>
        </Group>
        <Component id="jPanel1" min="-2" max="-2" attributes="0"/>
      </Group>
    </DimensionLayout>
  </Layout>
  <SubComponents>
    <Container class="javax.swing.JPanel" name="jPanel1">
      <Properties>
        <Property name="background" type="java.awt.Color" editor="org.netbeans.beaninfo.editors.ColorEditor">
          <Color blue="54" green="16" red="ff" type="rgb"/>
        </Property>
      </Properties>

      <Layout>
```

```
<DimensionLayout dim="0">
  <Group type="103" groupAlignment="0" attributes="0">
    <Group type="102" alignment="0" attributes="0">
      <EmptySpace min="-2" pref="215" max="-2" attributes="0"/>
      <Component id="jLabel1" min="-2" pref="260" max="-2" attributes="0"/>
      <EmptySpace min="-2" pref="111" max="-2" attributes="0"/>
      <Component id="jLabel2Minimize" min="-2" pref="26" max="-2" attributes="0"/>
      <EmptySpace type="separate" max="-2" attributes="0"/>
      <Component id="jLabel2Minimize1" min="-2" pref="26" max="-2" attributes="0"/>
      <EmptySpace pref="45" max="32767" attributes="0"/>
    </Group>
  </Group>
</DimensionLayout>
<DimensionLayout dim="1">
  <Group type="103" groupAlignment="0" attributes="0">
    <Group type="102" alignment="0" attributes="0">
      <EmptySpace min="-2" pref="25" max="-2" attributes="0"/>
      <Group type="103" groupAlignment="3" attributes="0">
        <Component id="jLabel1" alignment="3" min="-2" pref="57" max="-2" attributes="0"/>
        <Component id="jLabel2Minimize" alignment="3" max="32767" attributes="0"/>
        <Component id="jLabel2Minimize1" alignment="3" max="32767" attributes="0"/>
      </Group>
      <EmptySpace pref="38" max="32767" attributes="0"/>
    </Group>
  </Group>
</DimensionLayout>
</Layout>
<SubComponents>
  <Component class="javax.swing.JLabel" name="jLabel1">
    <Properties>
      <Property name="font" type="java.awt.Font" editor="org.netbeans.beaninfo.editors.FontEditor">
        <Font name="Tahoma" size="24" style="1"/>
      </Property>
      <Property name="foreground" type="java.awt.Color" editor="org.netbeans.beaninfo.editors.ColorEditor">
        <Color blue="ff" green="ff" red="ff" type="rgb"/>
      </Property>
      <Property name="text" type="java.lang.String" value="Fire Alarm System"/>
    </Properties>
  </Component>
  <Component class="javax.swing.JLabel" name="jLabel2Minimize">
    <Properties>
      <Property name="font" type="java.awt.Font" editor="org.netbeans.beaninfo.editors.FontEditor">
        <Font name="Tahoma" size="24" style="1"/>
      </Property>
      <Property name="foreground" type="java.awt.Color" editor="org.netbeans.beaninfo.editors.ColorEditor">
        <Color blue="ff" green="ff" red="ff" type="rgb"/>
      </Property>
      <Property name="text" type="java.lang.String" value=" -"/>
      <Property name="cursor" type="java.awt.Cursor" editor="org.netbeans.modules.form.editors2.CursorEditor">
        <Color id="Hand Cursor"/>
      </Property>
    </Properties>
    <Events>
      <EventHandler event="mouseClicked" listener="java.awt.event.MouseListener"
parameters="java.awt.event.MouseEvent" handler="jLabel2MinimizeMouseClicked"/>
    </Events>
  </Component>
  <Component class="javax.swing.JLabel" name="jLabel2Minimize1">
```

```
      <Properties>
       <Property name="font" type="java.awt.Font" editor="org.netbeans.beaninfo.editors.FontEditor">
        <Font name="Tahoma" size="24" style="1"/>
       </Property>
       <Property name="foreground" type="java.awt.Color" editor="org.netbeans.beaninfo.editors.ColorEditor">
        <Color blue="ff" green="ff" red="ff" type="rgb"/>
       </Property>
       <Property name="text" type="java.lang.String" value="X"/>
       <Property name="cursor" type="java.awt.Cursor" editor="org.netbeans.modules.form.editors2.CursorEditor">
        <Color id="Hand Cursor"/>
       </Property>
      </Properties>
      <Events>
       <EventHandler event="mouseClicked" listener="java.awt.event.MouseListener"
parameters="java.awt.event.MouseEvent" handler="jLabel2Minimize1MouseClicked"/>
      </Events>
     </Component>
    </SubComponents>
   </Container>
   <Container class="javax.swing.JPanel" name="jPanel2">
    <Properties>
     <Property name="background" type="java.awt.Color" editor="org.netbeans.beaninfo.editors.ColorEditor">
      <Color blue="3b" green="22" red="22" type="rgb"/>
     </Property>
    </Properties>

    <Layout>
     <DimensionLayout dim="0">
      <Group type="103" groupAlignment="0" attributes="0">
       <Group type="102" alignment="1" attributes="0">
        <EmptySpace max="32767" attributes="0"/>
        <Group type="103" groupAlignment="0" attributes="0">
         <Component id="jButton1signin" min="-2" pref="142" max="-2" attributes="0"/>
         <Component id="jButton2registerUser" min="-2" pref="142" max="-2" attributes="0"/>
        </Group>
        <EmptySpace min="-2" pref="275" max="-2" attributes="0"/>
       </Group>
      </Group>
     </DimensionLayout>
     <DimensionLayout dim="1">
      <Group type="103" groupAlignment="0" attributes="0">
       <Group type="102" alignment="1" attributes="0">
        <EmptySpace pref="105" max="32767" attributes="0"/>
        <Component id="jButton2registerUser" min="-2" pref="54" max="-2" attributes="0"/>
        <EmptySpace min="-2" pref="44" max="-2" attributes="0"/>
        <Component id="jButton1signin" min="-2" pref="54" max="-2" attributes="0"/>
        <EmptySpace min="-2" pref="172" max="-2" attributes="0"/>
       </Group>
      </Group>
     </DimensionLayout>
    </Layout>
    <SubComponents>
     <Component class="javax.swing.JButton" name="jButton1signin">
      <Properties>
       <Property name="background" type="java.awt.Color" editor="org.netbeans.beaninfo.editors.ColorEditor">
        <Color blue="ff" green="86" red="3a" type="rgb"/>
       </Property>
       <Property name="font" type="java.awt.Font" editor="org.netbeans.beaninfo.editors.FontEditor">
```

```
        <Font name="Tahoma" size="14" style="0"/>
       </Property>
       <Property name="text" type="java.lang.String" value="Sign in"/>
      </Properties>
      <Events>
       <EventHandler event="mouseClicked" listener="java.awt.event.MouseListener"
parameters="java.awt.event.MouseEvent" handler="jButton1signinMouseClicked"/>
        <EventHandler event="actionPerformed" listener="java.awt.event.ActionListener"
parameters="java.awt.event.ActionEvent" handler="jButton1signinActionPerformed"/>
      </Events>
     </Component>
     <Component class="javax.swing.JButton" name="jButton2registerUser">
      <Properties>
       <Property name="background" type="java.awt.Color" editor="org.netbeans.beaninfo.editors.ColorEditor">
         <Color blue="ff" green="86" red="3a" type="rgb"/>
       </Property>
       <Property name="font" type="java.awt.Font" editor="org.netbeans.beaninfo.editors.FontEditor">
         <Font name="Tahoma" size="14" style="0"/>
       </Property>
       <Property name="text" type="java.lang.String" value="Register User"/>
      </Properties>
      <Events>
       <EventHandler event="mouseClicked" listener="java.awt.event.MouseListener"
parameters="java.awt.event.MouseEvent" handler="jButton2registerUserMouseClicked"/>
        <EventHandler event="actionPerformed" listener="java.awt.event.ActionListener"
parameters="java.awt.event.ActionEvent" handler="jButton2registerUserActionPerformed"/>
      </Events>
     </Component>
    </SubComponents>
   </Container>
  </SubComponents>
</Form>
```

Home.java

```java
package FireAlarmViews;

import desktopclient.*;
import FireAlarmViews.LoginForm;
import FireAlarmViews.RegisterForm;
import javax.swing.JFrame;

/**
 *
 * @author DELL
 */
public class Home extends javax.swing.JFrame {

  /**
   * Creates new form Home
   */
  public Home() {
    initComponents();
    this.setLocationRelativeTo(null);
  }

  /**
```

```
 * 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">//GEN-BEGIN:initComponents
private void initComponents() {

    jPanel1 = new javax.swing.JPanel();
    jLabel1 = new javax.swing.JLabel();
    jLabel2Minimize = new javax.swing.JLabel();
    jLabel2Minimize1 = new javax.swing.JLabel();
    jPanel2 = new javax.swing.JPanel();
    jButton1signin = new javax.swing.JButton();
    jButton2registerUser = new javax.swing.JButton();

    setDefaultCloseOperation(javax.swing.WindowConstants.EXIT_ON_CLOSE);
    setCursor(new java.awt.Cursor(java.awt.Cursor.DEFAULT_CURSOR));
    setUndecorated(true);

    jPanel1.setBackground(new java.awt.Color(255, 22, 84));

    jLabel1.setFont(new java.awt.Font("Tahoma", 1, 24)); // NOI18N
    jLabel1.setForeground(new java.awt.Color(255, 255, 255));
    jLabel1.setText("Fire Alarm System");

    jLabel2Minimize.setFont(new java.awt.Font("Tahoma", 1, 24)); // NOI18N
    jLabel2Minimize.setForeground(new java.awt.Color(255, 255, 255));
    jLabel2Minimize.setText(" -");
    jLabel2Minimize.setCursor(new java.awt.Cursor(java.awt.Cursor.HAND_CURSOR));
    jLabel2Minimize.addMouseListener(new java.awt.event.MouseAdapter() {
        public void mouseClicked(java.awt.event.MouseEvent evt) {
            jLabel2MinimizeMouseClicked(evt);
        }
    });

    jLabel2Minimize1.setFont(new java.awt.Font("Tahoma", 1, 24)); // NOI18N
    jLabel2Minimize1.setForeground(new java.awt.Color(255, 255, 255));
    jLabel2Minimize1.setText("X");
    jLabel2Minimize1.setCursor(new java.awt.Cursor(java.awt.Cursor.HAND_CURSOR));
    jLabel2Minimize1.addMouseListener(new java.awt.event.MouseAdapter() {
        public void mouseClicked(java.awt.event.MouseEvent evt) {
            jLabel2Minimize1MouseClicked(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()
            .addGap(215, 215, 215)
            .addComponent(jLabel1, javax.swing.GroupLayout.PREFERRED_SIZE, 260,
javax.swing.GroupLayout.PREFERRED_SIZE)
            .addGap(111, 111, 111)
            .addComponent(jLabel2Minimize, javax.swing.GroupLayout.PREFERRED_SIZE, 26,
javax.swing.GroupLayout.PREFERRED_SIZE)
            .addGap(18, 18, 18)
```

```java
                .addComponent(jLabel2Minimize1, javax.swing.GroupLayout.PREFERRED_SIZE, 26,
javax.swing.GroupLayout.PREFERRED_SIZE)
                .addContainerGap(45, Short.MAX_VALUE))
        );
        jPanel1Layout.setVerticalGroup(
            jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addGroup(jPanel1Layout.createSequentialGroup()
                .addGap(25, 25, 25)
                .addGroup(jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELINE)
                    .addComponent(jLabel1, javax.swing.GroupLayout.PREFERRED_SIZE, 57,
javax.swing.GroupLayout.PREFERRED_SIZE)
                    .addComponent(jLabel2Minimize, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)
                    .addComponent(jLabel2Minimize1, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE))
                .addContainerGap(38, Short.MAX_VALUE))
        );

        jPanel2.setBackground(new java.awt.Color(34, 34, 59));

        jButton1signin.setBackground(new java.awt.Color(58, 134, 255));
        jButton1signin.setFont(new java.awt.Font("Tahoma", 0, 14)); // NOI18N
        jButton1signin.setText("Sign in");
        jButton1signin.addMouseListener(new java.awt.event.MouseAdapter() {
            public void mouseClicked(java.awt.event.MouseEvent evt) {
                jButton1signinMouseClicked(evt);
            }
        });
        jButton1signin.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                jButton1signinActionPerformed(evt);
            }
        });

        jButton2registerUser.setBackground(new java.awt.Color(58, 134, 255));
        jButton2registerUser.setFont(new java.awt.Font("Tahoma", 0, 14)); // NOI18N
        jButton2registerUser.setText("Register User");
        jButton2registerUser.addMouseListener(new java.awt.event.MouseAdapter() {
            public void mouseClicked(java.awt.event.MouseEvent evt) {
                jButton2registerUserMouseClicked(evt);
            }
        });
        jButton2registerUser.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                jButton2registerUserActionPerformed(evt);
            }
        });

        javax.swing.GroupLayout jPanel2Layout = new javax.swing.GroupLayout(jPanel2);
        jPanel2.setLayout(jPanel2Layout);
        jPanel2Layout.setHorizontalGroup(
            jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addGroup(javax.swing.GroupLayout.Alignment.TRAILING, jPanel2Layout.createSequentialGroup()
                .addContainerGap(javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)
                .addGroup(jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                    .addComponent(jButton1signin, javax.swing.GroupLayout.PREFERRED_SIZE, 142,
javax.swing.GroupLayout.PREFERRED_SIZE)
```

```
                .addComponent(jButton2registerUser, javax.swing.GroupLayout.PREFERRED_SIZE, 142,
javax.swing.GroupLayout.PREFERRED_SIZE))
            .addGap(275, 275, 275))
    );
    jPanel2Layout.setVerticalGroup(
        jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
        .addGroup(javax.swing.GroupLayout.Alignment.TRAILING, jPanel2Layout.createSequentialGroup()
            .addContainerGap(105, Short.MAX_VALUE)
            .addComponent(jButton2registerUser, javax.swing.GroupLayout.PREFERRED_SIZE, 54,
javax.swing.GroupLayout.PREFERRED_SIZE)
            .addGap(44, 44, 44)
            .addComponent(jButton1signin, javax.swing.GroupLayout.PREFERRED_SIZE, 54,
javax.swing.GroupLayout.PREFERRED_SIZE)
            .addGap(172, 172, 172))
    );

    javax.swing.GroupLayout layout = new javax.swing.GroupLayout(getContentPane());
    getContentPane().setLayout(layout);
    layout.setHorizontalGroup(
        layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
        .addComponent(jPanel2, javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.DEFAULT_SIZE,
Short.MAX_VALUE)
        .addComponent(jPanel1, javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.DEFAULT_SIZE,
Short.MAX_VALUE)
    );
    layout.setVerticalGroup(
        layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
        .addGroup(layout.createSequentialGroup()
            .addGap(115, 115, 115)
            .addComponent(jPanel2, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE))
            .addComponent(jPanel1, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE)
    );

    pack();
}// </editor-fold>//GEN-END:initComponents

private void jButton2registerUserActionPerformed(java.awt.event.ActionEvent evt) {//GEN-
FIRST:event_jButton2registerUserActionPerformed
    // TODO add your handling code here:
}//GEN-LAST:event_jButton2registerUserActionPerformed

private void jButton1signinActionPerformed(java.awt.event.ActionEvent evt) {//GEN-
FIRST:event_jButton1signinActionPerformed
    // TODO add your handling code here:
}//GEN-LAST:event_jButton1signinActionPerformed

private void jButton2registerUserMouseClicked(java.awt.event.MouseEvent evt) {//GEN-
FIRST:event_jButton2registerUserMouseClicked
    // to load the register form
    RegisterForm reg= new RegisterForm();
    reg.setVisible(true);
    reg.pack();
    reg.setLocationRelativeTo(null);
    reg.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
    this.dispose();
}//GEN-LAST:event_jButton2registerUserMouseClicked
```

```java
    private void jButton1signinMouseClicked(java.awt.event.MouseEvent evt) {//GEN-
FIRST:event_jButton1signinMouseClicked
        // to load the login form
        LoginForm log= new LoginForm();
        log.setVisible(true);
        log.pack();
        log.setLocationRelativeTo(null);
        log.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
        this.dispose();
    }//GEN-LAST:event_jButton1signinMouseClicked

    private void jLabel2MinimizeMouseClicked(java.awt.event.MouseEvent evt) {//GEN-
FIRST:event_jLabel2MinimizeMouseClicked
        this.setState(JFrame.ICONIFIED);
    }//GEN-LAST:event_jLabel2MinimizeMouseClicked

    private void jLabel2Minimize1MouseClicked(java.awt.event.MouseEvent evt) {//GEN-
FIRST:event_jLabel2Minimize1MouseClicked
            System.exit(0);
    }//GEN-LAST:event_jLabel2Minimize1MouseClicked

    /**
     * @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(Home.class.getName()).log(java.util.logging.Level.SEVERE, null, ex);
        } catch (InstantiationException ex) {
            java.util.logging.Logger.getLogger(Home.class.getName()).log(java.util.logging.Level.SEVERE, null, ex);
        } catch (IllegalAccessException ex) {
            java.util.logging.Logger.getLogger(Home.class.getName()).log(java.util.logging.Level.SEVERE, null, ex);
        } catch (javax.swing.UnsupportedLookAndFeelException ex) {
            java.util.logging.Logger.getLogger(Home.class.getName()).log(java.util.logging.Level.SEVERE, null, ex);
        }
        //</editor-fold>
        //</editor-fold>

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

```
    // Variables declaration - do not modify//GEN-BEGIN:variables
    private javax.swing.JButton jButton1signin;
    private javax.swing.JButton jButton2registerUser;
    private javax.swing.JLabel jLabel1;
    private javax.swing.JLabel jLabel2Minimize;
    private javax.swing.JLabel jLabel2Minimize1;
    private javax.swing.JPanel jPanel1;
    private javax.swing.JPanel jPanel2;
    // End of variables declaration//GEN-END:variables
}
```

LoginForm.form

```xml
<?xml version="1.0" encoding="UTF-8" ?>

<Form version="1.3" maxVersion="1.9" type="org.netbeans.modules.form.forminfo.JFrameFormInfo">
  <NonVisualComponents>
    <Container class="javax.swing.JPanel" name="jPanel2">

      <Layout>
        <DimensionLayout dim="0">
          <Group type="103" groupAlignment="0" attributes="0">
            <EmptySpace min="0" pref="100" max="32767" attributes="0"/>
          </Group>
        </DimensionLayout>
        <DimensionLayout dim="1">
          <Group type="103" groupAlignment="0" attributes="0">
            <EmptySpace min="0" pref="100" max="32767" attributes="0"/>
          </Group>
        </DimensionLayout>
      </Layout>
    </Container>
  </NonVisualComponents>
  <Properties>
    <Property name="defaultCloseOperation" type="int" value="3"/>
    <Property name="undecorated" type="boolean" value="true"/>
  </Properties>
  <SyntheticProperties>
    <SyntheticProperty name="formSizePolicy" type="int" value="1"/>
    <SyntheticProperty name="generateCenter" type="boolean" value="false"/>
  </SyntheticProperties>
  <AuxValues>
    <AuxValue name="FormSettings_autoResourcing" type="java.lang.Integer" value="0"/>
    <AuxValue name="FormSettings_autoSetComponentName" type="java.lang.Boolean" value="false"/>
    <AuxValue name="FormSettings_generateFQN" type="java.lang.Boolean" value="true"/>
    <AuxValue name="FormSettings_generateMnemonicsCode" type="java.lang.Boolean" value="false"/>
    <AuxValue name="FormSettings_i18nAutoMode" type="java.lang.Boolean" value="false"/>
    <AuxValue name="FormSettings_layoutCodeTarget" type="java.lang.Integer" value="1"/>
    <AuxValue name="FormSettings_listenerGenerationStyle" type="java.lang.Integer" value="0"/>
    <AuxValue name="FormSettings_variablesLocal" type="java.lang.Boolean" value="false"/>
    <AuxValue name="FormSettings_variablesModifier" type="java.lang.Integer" value="2"/>
  </AuxValues>

  <Layout>
    <DimensionLayout dim="0">
      <Group type="103" groupAlignment="0" attributes="0">
        <Component id="jPanel1" min="-2" max="-2" attributes="0"/>
```

```
          <Component id="jPanel3" min="-2" max="-2" attributes="0"/>
        </Group>
      </DimensionLayout>
      <DimensionLayout dim="1">
        <Group type="103" groupAlignment="0" attributes="0">
          <Group type="102" attributes="0">
            <Component id="jPanel1" min="-2" max="-2" attributes="0"/>
            <EmptySpace min="0" pref="0" max="-2" attributes="0"/>
            <Component id="jPanel3" min="-2" max="-2" attributes="0"/>
          </Group>
        </Group>
      </DimensionLayout>
    </Layout>
    <SubComponents>
      <Container class="javax.swing.JPanel" name="jPanel1">
        <Properties>
          <Property name="background" type="java.awt.Color" editor="org.netbeans.beaninfo.editors.ColorEditor">
            <Color blue="54" green="16" red="ff" type="rgb"/>
          </Property>
        </Properties>

        <Layout>
          <DimensionLayout dim="0">
            <Group type="103" groupAlignment="0" attributes="0">
              <Group type="102" alignment="0" attributes="0">
                <EmptySpace min="-2" pref="59" max="-2" attributes="0"/>
                <Component id="jLabel1" min="-2" pref="145" max="-2" attributes="0"/>
                <EmptySpace pref="196" max="32767" attributes="0"/>
                <Component id="jLabel2Minimize" min="-2" pref="26" max="-2" attributes="0"/>
                <EmptySpace type="unrelated" max="-2" attributes="0"/>
                <Component id="jLabel3Close" min="-2" pref="26" max="-2" attributes="0"/>
                <EmptySpace min="-2" pref="26" max="-2" attributes="0"/>
              </Group>
            </Group>
          </DimensionLayout>
          <DimensionLayout dim="1">
            <Group type="103" groupAlignment="0" attributes="0">
              <Group type="102" alignment="0" attributes="0">
                <EmptySpace max="-2" attributes="0"/>
                <Group type="103" groupAlignment="3" attributes="0">
                  <Component id="jLabel1" alignment="3" max="32767" attributes="0"/>
                  <Component id="jLabel2Minimize" alignment="3" pref="34" max="32767" attributes="0"/>
                  <Component id="jLabel3Close" alignment="3" max="32767" attributes="0"/>
                </Group>
                <EmptySpace max="-2" attributes="0"/>
              </Group>
            </Group>
          </DimensionLayout>
        </Layout>
        <SubComponents>
          <Component class="javax.swing.JLabel" name="jLabel1">
            <Properties>
              <Property name="font" type="java.awt.Font" editor="org.netbeans.beaninfo.editors.FontEditor">
                <Font name="Tahoma" size="24" style="1"/>
              </Property>
              <Property name="foreground" type="java.awt.Color" editor="org.netbeans.beaninfo.editors.ColorEditor">
                <Color blue="ff" green="ff" red="ff" type="rgb"/>
              </Property>
```

```
            <Property name="text" type="java.lang.String" value="Login Form"/>
          </Properties>
        </Component>
        <Component class="javax.swing.JLabel" name="jLabel2Minimize">
          <Properties>
            <Property name="font" type="java.awt.Font" editor="org.netbeans.beaninfo.editors.FontEditor">
              <Font name="Tahoma" size="24" style="1"/>
            </Property>
            <Property name="foreground" type="java.awt.Color" editor="org.netbeans.beaninfo.editors.ColorEditor">
              <Color blue="ff" green="ff" red="ff" type="rgb"/>
            </Property>
            <Property name="text" type="java.lang.String" value=" -"/>
            <Property name="cursor" type="java.awt.Cursor" editor="org.netbeans.modules.form.editors2.CursorEditor">
              <Color id="Hand Cursor"/>
            </Property>
          </Properties>
          <Events>
            <EventHandler event="mouseClicked" listener="java.awt.event.MouseListener"
parameters="java.awt.event.MouseEvent" handler="jLabel2MinimizeMouseClicked"/>
          </Events>
        </Component>
        <Component class="javax.swing.JLabel" name="jLabel3Close">
          <Properties>
            <Property name="font" type="java.awt.Font" editor="org.netbeans.beaninfo.editors.FontEditor">
              <Font name="Tahoma" size="24" style="1"/>
            </Property>
            <Property name="foreground" type="java.awt.Color" editor="org.netbeans.beaninfo.editors.ColorEditor">
              <Color blue="ff" green="ff" red="ff" type="rgb"/>
            </Property>
            <Property name="text" type="java.lang.String" value="X"/>
            <Property name="cursor" type="java.awt.Cursor" editor="org.netbeans.modules.form.editors2.CursorEditor">
              <Color id="Hand Cursor"/>
            </Property>
          </Properties>
          <Events>
            <EventHandler event="mouseClicked" listener="java.awt.event.MouseListener"
parameters="java.awt.event.MouseEvent" handler="jLabel3CloseMouseClicked"/>
          </Events>
        </Component>
      </SubComponents>
    </Container>
    <Container class="javax.swing.JPanel" name="jPanel3">
      <Properties>
        <Property name="background" type="java.awt.Color" editor="org.netbeans.beaninfo.editors.ColorEditor">
          <Color blue="3b" green="22" red="22" type="rgb"/>
        </Property>
        <Property name="foreground" type="java.awt.Color" editor="org.netbeans.beaninfo.editors.ColorEditor">
          <Color blue="f4" green="f2" red="ed" type="rgb"/>
        </Property>
        <Property name="font" type="java.awt.Font" editor="org.netbeans.beaninfo.editors.FontEditor">
          <Font name="Tahoma" size="18" style="0"/>
        </Property>
      </Properties>

      <Layout>
        <DimensionLayout dim="0">
          <Group type="103" groupAlignment="0" attributes="0">
            <Group type="102" alignment="0" attributes="0">
```

```
                    <EmptySpace min="-2" pref="50" max="-2" attributes="0"/>
                    <Group type="103" groupAlignment="0" max="-2" attributes="0">
                      <Group type="102" attributes="0">
                        <Component id="jLabel5" min="-2" pref="113" max="-2" attributes="0"/>
                        <EmptySpace max="-2" attributes="0"/>
                        <Component id="UserName" max="32767" attributes="0"/>
                      </Group>
                      <Group type="102" alignment="0" attributes="0">
                        <Component id="jLabel4" min="-2" pref="98" max="-2" attributes="0"/>
                        <EmptySpace type="separate" max="-2" attributes="0"/>
                        <Group type="103" groupAlignment="0" attributes="0">
                          <Component id="jLabel2Register" min="-2" pref="225" max="-2" attributes="0"/>
                          <Group type="103" groupAlignment="0" attributes="0">
                            <Component id="Password" max="32767" attributes="0"/>
                            <Group type="102" alignment="0" attributes="0">
                              <Component id="jButton1" min="-2" pref="80" max="-2" attributes="0"/>
                              <EmptySpace min="-2" pref="65" max="-2" attributes="0"/>
                              <Component id="jButton2Login" min="-2" pref="80" max="-2" attributes="0"/>
                              <EmptySpace min="0" pref="0" max="32767" attributes="0"/>
                            </Group>
                          </Group>
                        </Group>
                      </Group>
                    </Group>
                    <EmptySpace pref="99" max="32767" attributes="0"/>
                  </Group>
                </Group>
              </DimensionLayout>
              <DimensionLayout dim="1">
                <Group type="103" groupAlignment="0" attributes="0">
                  <Group type="102" alignment="0" attributes="0">
                    <EmptySpace min="-2" pref="79" max="-2" attributes="0"/>
                    <Group type="103" groupAlignment="3" attributes="0">
                      <Component id="jLabel5" alignment="3" min="-2" pref="38" max="-2" attributes="0"/>
                      <Component id="UserName" alignment="3" max="32767" attributes="0"/>
                    </Group>
                    <EmptySpace type="separate" max="-2" attributes="0"/>
                    <Group type="103" groupAlignment="3" attributes="0">
                      <Component id="jLabel4" alignment="3" min="-2" pref="41" max="-2" attributes="0"/>
                      <Component id="Password" alignment="3" min="-2" max="-2" attributes="0"/>
                    </Group>
                    <EmptySpace type="separate" max="-2" attributes="0"/>
                    <Group type="103" groupAlignment="3" attributes="0">
                      <Component id="jButton1" alignment="3" min="-2" pref="37" max="-2" attributes="0"/>
                      <Component id="jButton2Login" alignment="3" min="-2" pref="37" max="-2" attributes="0"/>
                    </Group>
                    <EmptySpace type="separate" max="-2" attributes="0"/>
                    <Component id="jLabel2Register" min="-2" pref="21" max="-2" attributes="0"/>
                    <EmptySpace min="-2" pref="20" max="-2" attributes="0"/>
                  </Group>
                </Group>
              </DimensionLayout>
            </Layout>
            <SubComponents>
              <Component class="javax.swing.JLabel" name="jLabel4">
                <Properties>
                  <Property name="background" type="java.awt.Color" editor="org.netbeans.beaninfo.editors.ColorEditor">
                    <Color blue="f4" green="f2" red="ed" type="rgb"/>
```

```
    </Property>
    <Property name="font" type="java.awt.Font" editor="org.netbeans.beaninfo.editors.FontEditor">
     <Font name="Tahoma" size="18" style="0"/>
    </Property>
    <Property name="foreground" type="java.awt.Color" editor="org.netbeans.beaninfo.editors.ColorEditor">
     <Color blue="f4" green="f2" red="ed" type="rgb"/>
    </Property>
    <Property name="text" type="java.lang.String" value="Password   :"/>
   </Properties>
  </Component>
  <Component class="javax.swing.JLabel" name="jLabel5">
   <Properties>
    <Property name="background" type="java.awt.Color" editor="org.netbeans.beaninfo.editors.ColorEditor">
     <Color blue="f4" green="f2" red="ed" type="rgb"/>
    </Property>
    <Property name="font" type="java.awt.Font" editor="org.netbeans.beaninfo.editors.FontEditor">
     <Font name="Tahoma" size="18" style="0"/>
    </Property>
    <Property name="foreground" type="java.awt.Color" editor="org.netbeans.beaninfo.editors.ColorEditor">
     <Color blue="f4" green="f2" red="ed" type="rgb"/>
    </Property>
    <Property name="text" type="java.lang.String" value="User Name :"/>
   </Properties>
  </Component>
  <Component class="javax.swing.JTextField" name="UserName">
   <Properties>
    <Property name="background" type="java.awt.Color" editor="org.netbeans.beaninfo.editors.ColorEditor">
     <Color blue="72" green="64" red="5e" type="rgb"/>
    </Property>
    <Property name="font" type="java.awt.Font" editor="org.netbeans.beaninfo.editors.FontEditor">
     <Font name="Tahoma" size="18" style="0"/>
    </Property>
    <Property name="foreground" type="java.awt.Color" editor="org.netbeans.beaninfo.editors.ColorEditor">
     <Color blue="ac" green="9d" red="97" type="rgb"/>
    </Property>
   </Properties>
  </Component>
  <Component class="javax.swing.JPasswordField" name="Password">
   <Properties>
    <Property name="background" type="java.awt.Color" editor="org.netbeans.beaninfo.editors.ColorEditor">
     <Color blue="72" green="64" red="5e" type="rgb"/>
    </Property>
    <Property name="font" type="java.awt.Font" editor="org.netbeans.beaninfo.editors.FontEditor">
     <Font name="Tahoma" size="18" style="0"/>
    </Property>
    <Property name="foreground" type="java.awt.Color" editor="org.netbeans.beaninfo.editors.ColorEditor">
     <Color blue="ac" green="9d" red="97" type="rgb"/>
    </Property>
   </Properties>
  </Component>
  <Component class="javax.swing.JButton" name="jButton1">
   <Properties>
    <Property name="background" type="java.awt.Color" editor="org.netbeans.beaninfo.editors.ColorEditor">
     <Color blue="36" green="1d" red="e7" type="rgb"/>
    </Property>
    <Property name="font" type="java.awt.Font" editor="org.netbeans.beaninfo.editors.FontEditor">
     <Font name="Tahoma" size="14" style="1"/>
    </Property>
   </Property>
```

```xml
          <Property name="foreground" type="java.awt.Color" editor="org.netbeans.beaninfo.editors.ColorEditor">
            <Color blue="ff" green="ff" red="ff" type="rgb"/>
          </Property>
          <Property name="text" type="java.lang.String" value="Cancel"/>
          <Property name="cursor" type="java.awt.Cursor" editor="org.netbeans.modules.form.editors2.CursorEditor">
            <Color id="Hand Cursor"/>
          </Property>
        </Properties>
        <Events>
          <EventHandler event="mouseClicked" listener="java.awt.event.MouseListener"
parameters="java.awt.event.MouseEvent" handler="jButton1MouseClicked"/>
          <EventHandler event="actionPerformed" listener="java.awt.event.ActionListener"
parameters="java.awt.event.ActionEvent" handler="jButton1ActionPerformed"/>
        </Events>
      </Component>
      <Component class="javax.swing.JButton" name="jButton2Login">
        <Properties>
          <Property name="background" type="java.awt.Color" editor="org.netbeans.beaninfo.editors.ColorEditor">
            <Color blue="ff" green="86" red="3a" type="rgb"/>
          </Property>
          <Property name="font" type="java.awt.Font" editor="org.netbeans.beaninfo.editors.FontEditor">
            <Font name="Tahoma" size="14" style="1"/>
          </Property>
          <Property name="foreground" type="java.awt.Color" editor="org.netbeans.beaninfo.editors.ColorEditor">
            <Color blue="ff" green="ff" red="ff" type="rgb"/>
          </Property>
          <Property name="text" type="java.lang.String" value="Login"/>
          <Property name="cursor" type="java.awt.Cursor" editor="org.netbeans.modules.form.editors2.CursorEditor">
            <Color id="Hand Cursor"/>
          </Property>
        </Properties>
        <Events>
          <EventHandler event="mouseClicked" listener="java.awt.event.MouseListener"
parameters="java.awt.event.MouseEvent" handler="jButton2LoginMouseClicked"/>
          <EventHandler event="actionPerformed" listener="java.awt.event.ActionListener"
parameters="java.awt.event.ActionEvent" handler="jButton2LoginActionPerformed"/>
        </Events>
      </Component>
      <Component class="javax.swing.JLabel" name="jLabel2Register">
        <Properties>
          <Property name="font" type="java.awt.Font" editor="org.netbeans.beaninfo.editors.FontEditor">
            <Font name="Tahoma" size="14" style="0"/>
          </Property>
          <Property name="foreground" type="java.awt.Color" editor="org.netbeans.beaninfo.editors.ColorEditor">
            <Color blue="ff" green="ff" red="ff" type="rgb"/>
          </Property>
          <Property name="text" type="java.lang.String" value="click here to register to the system "/>
          <Property name="cursor" type="java.awt.Cursor" editor="org.netbeans.modules.form.editors2.CursorEditor">
            <Color id="Hand Cursor"/>
          </Property>
        </Properties>
        <Events>
          <EventHandler event="mouseClicked" listener="java.awt.event.MouseListener"
parameters="java.awt.event.MouseEvent" handler="jLabel2RegisterMouseClicked"/>
        </Events>
      </Component>
    </SubComponents>
  </Container>
```

```
    </SubComponents>
</Form>
```

LoginForm.java

```java
package FireAlarmViews;

import javax.swing.JFrame;
import javax.swing.JOptionPane;

/**
 *
 * @author DELL
 */
public class LoginForm extends javax.swing.JFrame {

    /**
     * Creates new Login Form
     */
    public LoginForm() {
        initComponents();
        this.setLocationRelativeTo(null);//to center the form in the screen
    }

    /**
     * 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">//GEN-BEGIN:initComponents
    private void initComponents() {

        jPanel2 = new javax.swing.JPanel();
        jPanel1 = new javax.swing.JPanel();
        jLabel1 = new javax.swing.JLabel();
        jLabel2Minimize = new javax.swing.JLabel();
        jLabel3Close = new javax.swing.JLabel();
        jPanel3 = new javax.swing.JPanel();
        jLabel4 = new javax.swing.JLabel();
        jLabel5 = new javax.swing.JLabel();
        UserName = new javax.swing.JTextField();
        Password = new javax.swing.JPasswordField();
        jButton1 = new javax.swing.JButton();
        jButton2Login = new javax.swing.JButton();
        jLabel2Register = new javax.swing.JLabel();

        javax.swing.GroupLayout jPanel2Layout = new javax.swing.GroupLayout(jPanel2);
        jPanel2.setLayout(jPanel2Layout);
        jPanel2Layout.setHorizontalGroup(
            jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addGap(0, 100, Short.MAX_VALUE)
        );
        jPanel2Layout.setVerticalGroup(
            jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addGap(0, 100, Short.MAX_VALUE)
        );
```

```
        setDefaultCloseOperation(javax.swing.WindowConstants.EXIT_ON_CLOSE);
        setUndecorated(true);

        jPanel1.setBackground(new java.awt.Color(255, 22, 84));

        jLabel1.setFont(new java.awt.Font("Tahoma", 1, 24)); // NOI18N
        jLabel1.setForeground(new java.awt.Color(255, 255, 255));
        jLabel1.setText("Login Form");

        jLabel2Minimize.setFont(new java.awt.Font("Tahoma", 1, 24)); // NOI18N
        jLabel2Minimize.setForeground(new java.awt.Color(255, 255, 255));
        jLabel2Minimize.setText(" -");
        jLabel2Minimize.setCursor(new java.awt.Cursor(java.awt.Cursor.HAND_CURSOR));
        jLabel2Minimize.addMouseListener(new java.awt.event.MouseAdapter() {
            public void mouseClicked(java.awt.event.MouseEvent evt) {
                jLabel2MinimizeMouseClicked(evt);
            }
        });

        jLabel3Close.setFont(new java.awt.Font("Tahoma", 1, 24)); // NOI18N
        jLabel3Close.setForeground(new java.awt.Color(255, 255, 255));
        jLabel3Close.setText("X");
        jLabel3Close.setCursor(new java.awt.Cursor(java.awt.Cursor.HAND_CURSOR));
        jLabel3Close.addMouseListener(new java.awt.event.MouseAdapter() {
            public void mouseClicked(java.awt.event.MouseEvent evt) {
                jLabel3CloseMouseClicked(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()
                .addGap(59, 59, 59)
                .addComponent(jLabel1, javax.swing.GroupLayout.PREFERRED_SIZE, 145,
javax.swing.GroupLayout.PREFERRED_SIZE)
                .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED, 196, Short.MAX_VALUE)
                .addComponent(jLabel2Minimize, javax.swing.GroupLayout.PREFERRED_SIZE, 26,
javax.swing.GroupLayout.PREFERRED_SIZE)
                .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.UNRELATED)
                .addComponent(jLabel3Close, javax.swing.GroupLayout.PREFERRED_SIZE, 26,
javax.swing.GroupLayout.PREFERRED_SIZE)
                .addGap(26, 26, 26))
        );
        jPanel1Layout.setVerticalGroup(
            jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addGroup(jPanel1Layout.createSequentialGroup()
                .addContainerGap()
                .addGroup(jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELINE)
                    .addComponent(jLabel1, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)
                    .addComponent(jLabel2Minimize, javax.swing.GroupLayout.DEFAULT_SIZE, 34, Short.MAX_VALUE)
                    .addComponent(jLabel3Close, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE))
                .addContainerGap())
        );
```

```java
jPanel3.setBackground(new java.awt.Color(34, 34, 59));
jPanel3.setForeground(new java.awt.Color(237, 242, 244));
jPanel3.setFont(new java.awt.Font("Tahoma", 0, 18)); // NOI18N

jLabel4.setBackground(new java.awt.Color(237, 242, 244));
jLabel4.setFont(new java.awt.Font("Tahoma", 0, 18)); // NOI18N
jLabel4.setForeground(new java.awt.Color(237, 242, 244));
jLabel4.setText("Password   :");

jLabel5.setBackground(new java.awt.Color(237, 242, 244));
jLabel5.setFont(new java.awt.Font("Tahoma", 0, 18)); // NOI18N
jLabel5.setForeground(new java.awt.Color(237, 242, 244));
jLabel5.setText("User Name :");

UserName.setBackground(new java.awt.Color(94, 100, 114));
UserName.setFont(new java.awt.Font("Tahoma", 0, 18)); // NOI18N
UserName.setForeground(new java.awt.Color(151, 157, 172));

Password.setBackground(new java.awt.Color(94, 100, 114));
Password.setFont(new java.awt.Font("Tahoma", 0, 18)); // NOI18N
Password.setForeground(new java.awt.Color(151, 157, 172));

jButton1.setBackground(new java.awt.Color(231, 29, 54));
jButton1.setFont(new java.awt.Font("Tahoma", 1, 14)); // NOI18N
jButton1.setForeground(new java.awt.Color(255, 255, 255));
jButton1.setText("Cancel");
jButton1.setCursor(new java.awt.Cursor(java.awt.Cursor.HAND_CURSOR));
jButton1.addMouseListener(new java.awt.event.MouseAdapter() {
  public void mouseClicked(java.awt.event.MouseEvent evt) {
    jButton1MouseClicked(evt);
  }
});
jButton1.addActionListener(new java.awt.event.ActionListener() {
  public void actionPerformed(java.awt.event.ActionEvent evt) {
    jButton1ActionPerformed(evt);
  }
});

jButton2Login.setBackground(new java.awt.Color(58, 134, 255));
jButton2Login.setFont(new java.awt.Font("Tahoma", 1, 14)); // NOI18N
jButton2Login.setForeground(new java.awt.Color(255, 255, 255));
jButton2Login.setText("Login");
jButton2Login.setCursor(new java.awt.Cursor(java.awt.Cursor.HAND_CURSOR));
jButton2Login.addMouseListener(new java.awt.event.MouseAdapter() {
  public void mouseClicked(java.awt.event.MouseEvent evt) {
    jButton2LoginMouseClicked(evt);
  }
});
jButton2Login.addActionListener(new java.awt.event.ActionListener() {
  public void actionPerformed(java.awt.event.ActionEvent evt) {
    jButton2LoginActionPerformed(evt);
  }
});

jLabel2Register.setFont(new java.awt.Font("Tahoma", 0, 14)); // NOI18N
jLabel2Register.setForeground(new java.awt.Color(255, 255, 255));
jLabel2Register.setText("click here to register to the system ");
```

```java
        jLabel2Register.setCursor(new java.awt.Cursor(java.awt.Cursor.HAND_CURSOR));
        jLabel2Register.addMouseListener(new java.awt.event.MouseAdapter() {
            public void mouseClicked(java.awt.event.MouseEvent evt) {
                jLabel2RegisterMouseClicked(evt);
            }
        });

        javax.swing.GroupLayout jPanel3Layout = new javax.swing.GroupLayout(jPanel3);
        jPanel3.setLayout(jPanel3Layout);
        jPanel3Layout.setHorizontalGroup(
            jPanel3Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addGroup(jPanel3Layout.createSequentialGroup()
                .addGap(50, 50, 50)
                .addGroup(jPanel3Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING, false)
                    .addGroup(jPanel3Layout.createSequentialGroup()
                        .addComponent(jLabel5, javax.swing.GroupLayout.PREFERRED_SIZE, 113,
javax.swing.GroupLayout.PREFERRED_SIZE)
                        .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)
                        .addComponent(UserName))
                    .addGroup(jPanel3Layout.createSequentialGroup()
                        .addComponent(jLabel4, javax.swing.GroupLayout.PREFERRED_SIZE, 98,
javax.swing.GroupLayout.PREFERRED_SIZE)
                        .addGap(18, 18, 18)
                        .addGroup(jPanel3Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                            .addComponent(jLabel2Register, javax.swing.GroupLayout.PREFERRED_SIZE, 225,
javax.swing.GroupLayout.PREFERRED_SIZE)
                            .addGroup(jPanel3Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                                .addComponent(Password)
                                .addGroup(jPanel3Layout.createSequentialGroup()
                                    .addComponent(jButton1, javax.swing.GroupLayout.PREFERRED_SIZE, 80,
javax.swing.GroupLayout.PREFERRED_SIZE)
                                    .addGap(65, 65, 65)
                                    .addComponent(jButton2Login, javax.swing.GroupLayout.PREFERRED_SIZE, 80,
javax.swing.GroupLayout.PREFERRED_SIZE)
                                    .addGap(0, 0, Short.MAX_VALUE))))))
                .addContainerGap(99, Short.MAX_VALUE))
        );
        jPanel3Layout.setVerticalGroup(
            jPanel3Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addGroup(jPanel3Layout.createSequentialGroup()
                .addGap(79, 79, 79)
                .addGroup(jPanel3Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELINE)
                    .addComponent(jLabel5, javax.swing.GroupLayout.PREFERRED_SIZE, 38,
javax.swing.GroupLayout.PREFERRED_SIZE)
                    .addComponent(UserName))
                .addGap(18, 18, 18)
                .addGroup(jPanel3Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELINE)
                    .addComponent(jLabel4, javax.swing.GroupLayout.PREFERRED_SIZE, 41,
javax.swing.GroupLayout.PREFERRED_SIZE)
                    .addComponent(Password, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE))
                .addGap(18, 18, 18)
                .addGroup(jPanel3Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELINE)
                    .addComponent(jButton1, javax.swing.GroupLayout.PREFERRED_SIZE, 37,
javax.swing.GroupLayout.PREFERRED_SIZE)
                    .addComponent(jButton2Login, javax.swing.GroupLayout.PREFERRED_SIZE, 37,
javax.swing.GroupLayout.PREFERRED_SIZE))
                .addGap(18, 18, 18)
```

```java
                .addComponent(jLabel2Register, javax.swing.GroupLayout.PREFERRED_SIZE, 21,
javax.swing.GroupLayout.PREFERRED_SIZE)
                .addGap(20, 20, 20))
        );

        javax.swing.GroupLayout layout = new javax.swing.GroupLayout(getContentPane());
        getContentPane().setLayout(layout);
        layout.setHorizontalGroup(
            layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addComponent(jPanel1, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE)
            .addComponent(jPanel3, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE)
        );
        layout.setVerticalGroup(
            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)
                .addGap(0, 0, 0)
                .addComponent(jPanel3, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE))
        );

        pack();
    }// </editor-fold>//GEN-END:initComponents

    private void jLabel3CloseMouseClicked(java.awt.event.MouseEvent evt) {//GEN-
FIRST:event_jLabel3CloseMouseClicked
        System.exit(0);
    }//GEN-LAST:event_jLabel3CloseMouseClicked

    private void jLabel2MinimizeMouseClicked(java.awt.event.MouseEvent evt) {//GEN-
FIRST:event_jLabel2MinimizeMouseClicked
        this.setState(JFrame.ICONIFIED);
    }//GEN-LAST:event_jLabel2MinimizeMouseClicked

    private void jButton1ActionPerformed(java.awt.event.ActionEvent evt) {//GEN-FIRST:event_jButton1ActionPerformed
        // TODO add your handling code here:
    }//GEN-LAST:event_jButton1ActionPerformed

    private void jButton2LoginActionPerformed(java.awt.event.ActionEvent evt) {//GEN-
FIRST:event_jButton2LoginActionPerformed
        // TODO add your handling code here:
    }//GEN-LAST:event_jButton2LoginActionPerformed

    private void jLabel2RegisterMouseClicked(java.awt.event.MouseEvent evt) {//GEN-
FIRST:event_jLabel2RegisterMouseClicked
        //to load the register form
        RegisterForm reg= new RegisterForm();
        reg.setVisible(true);
        reg.pack();
        reg.setLocationRelativeTo(null);
        reg.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
        this.dispose();
    }//GEN-LAST:event_jLabel2RegisterMouseClicked
```

```java
    private void jButton2LoginMouseClicked(java.awt.event.MouseEvent evt) {//GEN-
FIRST:event_jButton2LoginMouseClicked

        // get the details provided by the user when logging
        String username = UserName.getText();
        String password = String.valueOf(Password.getPassword());

        // to validate the input fields of the form
        if (UserName.equals("")||Password.equals("")) {
            JOptionPane.showMessageDialog(null, "Fill all Fields");
        }else
        {
            JOptionPane.showMessageDialog(null, "Logged successfully !!!");
        }

        //to load the manage sensors form
        ManageSensors manageSensors = new ManageSensors();
        manageSensors.setVisible(true);
        manageSensors.pack();
        manageSensors.setLocationRelativeTo(null);
        manageSensors.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
        this.dispose();
    }//GEN-LAST:event_jButton2LoginMouseClicked

    private void jButton1MouseClicked(java.awt.event.MouseEvent evt) {//GEN-FIRST:event_jButton1MouseClicked
        //to load the home page
        Home rgf = new Home();
        rgf.setVisible(true);
        rgf.pack();
        rgf.setLocationRelativeTo(null);
        rgf.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
        this.dispose();
    }//GEN-LAST:event_jButton1MouseClicked

    /**
     * @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(LoginForm.class.getName()).log(java.util.logging.Level.SEVERE, null, ex);
        } catch (InstantiationException ex) {
            java.util.logging.Logger.getLogger(LoginForm.class.getName()).log(java.util.logging.Level.SEVERE, null, ex);
        } catch (IllegalAccessException ex) {
            java.util.logging.Logger.getLogger(LoginForm.class.getName()).log(java.util.logging.Level.SEVERE, null, ex);
        } catch (javax.swing.UnsupportedLookAndFeelException ex) {
            java.util.logging.Logger.getLogger(LoginForm.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 LoginForm().setVisible(true);
            }
        });
    }

    // Variables declaration - do not modify//GEN-BEGIN:variables
    private javax.swing.JPasswordField Password;
    private javax.swing.JTextField UserName;
    private javax.swing.JButton jButton1;
    private javax.swing.JButton jButton2Login;
    private javax.swing.JLabel jLabel1;
    private javax.swing.JLabel jLabel2Minimize;
    private javax.swing.JLabel jLabel2Register;
    private javax.swing.JLabel jLabel3Close;
    private javax.swing.JLabel jLabel4;
    private javax.swing.JLabel jLabel5;
    private javax.swing.JPanel jPanel1;
    private javax.swing.JPanel jPanel2;
    private javax.swing.JPanel jPanel3;
    // End of variables declaration//GEN-END:variables
}
```

ManageSensors.form

```xml
<?xml version="1.0" encoding="UTF-8" ?>

<Form version="1.3" maxVersion="1.9" type="org.netbeans.modules.form.forminfo.JFrameFormInfo">
  <Properties>
    <Property name="defaultCloseOperation" type="int" value="3"/>
    <Property name="undecorated" type="boolean" value="true"/>
  </Properties>
  <SyntheticProperties>
    <SyntheticProperty name="formSizePolicy" type="int" value="1"/>
    <SyntheticProperty name="generateCenter" type="boolean" value="false"/>
  </SyntheticProperties>
  <AuxValues>
    <AuxValue name="FormSettings_autoResourcing" type="java.lang.Integer" value="0"/>
    <AuxValue name="FormSettings_autoSetComponentName" type="java.lang.Boolean" value="false"/>
    <AuxValue name="FormSettings_generateFQN" type="java.lang.Boolean" value="true"/>
    <AuxValue name="FormSettings_generateMnemonicsCode" type="java.lang.Boolean" value="false"/>
    <AuxValue name="FormSettings_i18nAutoMode" type="java.lang.Boolean" value="false"/>
    <AuxValue name="FormSettings_layoutCodeTarget" type="java.lang.Integer" value="1"/>
    <AuxValue name="FormSettings_listenerGenerationStyle" type="java.lang.Integer" value="0"/>
    <AuxValue name="FormSettings_variablesLocal" type="java.lang.Boolean" value="false"/>
    <AuxValue name="FormSettings_variablesModifier" type="java.lang.Integer" value="2"/>
  </AuxValues>

  <Layout>
    <DimensionLayout dim="0">
```

```
              <Group type="103" groupAlignment="0" attributes="0">
                <Component id="jPanel2" alignment="0" max="32767" attributes="0"/>
                <Component id="jPanel1" alignment="0" max="32767" attributes="0"/>
              </Group>
          </DimensionLayout>
          <DimensionLayout dim="1">
            <Group type="103" groupAlignment="0" attributes="0">
                <Group type="102" alignment="0" attributes="0">
                  <EmptySpace min="115" pref="115" max="-2" attributes="0"/>
                  <Component id="jPanel2" min="-2" max="-2" attributes="0"/>
                </Group>
                <Component id="jPanel1" alignment="0" min="-2" max="-2" attributes="0"/>
            </Group>
          </DimensionLayout>
        </Layout>
        <SubComponents>
          <Container class="javax.swing.JPanel" name="jPanel1">
            <Properties>
              <Property name="background" type="java.awt.Color" editor="org.netbeans.beaninfo.editors.ColorEditor">
                <Color blue="54" green="16" red="ff" type="rgb"/>
              </Property>
            </Properties>

            <Layout>
              <DimensionLayout dim="0">
                <Group type="103" groupAlignment="0" attributes="0">
                    <Group type="102" alignment="0" attributes="0">
                      <EmptySpace min="-2" pref="215" max="-2" attributes="0"/>
                      <Component id="jLabel1" min="-2" pref="260" max="-2" attributes="0"/>
                      <EmptySpace min="-2" pref="111" max="-2" attributes="0"/>
                      <Component id="jLabel2Minimize" min="-2" pref="26" max="-2" attributes="0"/>
                      <EmptySpace type="separate" max="-2" attributes="0"/>
                      <Component id="jLabel2Minimize1" min="-2" pref="26" max="-2" attributes="0"/>
                      <EmptySpace max="32767" attributes="0"/>
                    </Group>
                </Group>
              </DimensionLayout>
              <DimensionLayout dim="1">
                <Group type="103" groupAlignment="0" attributes="0">
                    <Group type="102" alignment="0" attributes="0">
                      <EmptySpace min="-2" pref="25" max="-2" attributes="0"/>
                      <Group type="103" groupAlignment="3" attributes="0">
                        <Component id="jLabel1" alignment="3" min="-2" pref="57" max="-2" attributes="0"/>
                        <Component id="jLabel2Minimize" alignment="3" max="32767" attributes="0"/>
                        <Component id="jLabel2Minimize1" alignment="3" max="32767" attributes="0"/>
                      </Group>
                      <EmptySpace pref="38" max="32767" attributes="0"/>
                    </Group>
                </Group>
              </DimensionLayout>
            </Layout>
            <SubComponents>
              <Component class="javax.swing.JLabel" name="jLabel1">
                <Properties>
                  <Property name="font" type="java.awt.Font" editor="org.netbeans.beaninfo.editors.FontEditor">
                    <Font name="Tahoma" size="24" style="1"/>
                  </Property>
                  <Property name="foreground" type="java.awt.Color" editor="org.netbeans.beaninfo.editors.ColorEditor">
```

```
              <Color blue="ff" green="ff" red="ff" type="rgb"/>
            </Property>
            <Property name="text" type="java.lang.String" value="Manage Sensors"/>
          </Properties>
        </Component>
        <Component class="javax.swing.JLabel" name="jLabel2Minimize">
          <Properties>
            <Property name="font" type="java.awt.Font" editor="org.netbeans.beaninfo.editors.FontEditor">
              <Font name="Tahoma" size="24" style="1"/>
            </Property>
            <Property name="foreground" type="java.awt.Color" editor="org.netbeans.beaninfo.editors.ColorEditor">
              <Color blue="ff" green="ff" red="ff" type="rgb"/>
            </Property>
            <Property name="text" type="java.lang.String" value=" -"/>
            <Property name="cursor" type="java.awt.Cursor" editor="org.netbeans.modules.form.editors2.CursorEditor">
              <Color id="Hand Cursor"/>
            </Property>
          </Properties>
          <Events>
            <EventHandler event="mouseClicked" listener="java.awt.event.MouseListener"
parameters="java.awt.event.MouseEvent" handler="jLabel2MinimizeMouseClicked"/>
          </Events>
        </Component>
        <Component class="javax.swing.JLabel" name="jLabel2Minimize1">
          <Properties>
            <Property name="font" type="java.awt.Font" editor="org.netbeans.beaninfo.editors.FontEditor">
              <Font name="Tahoma" size="24" style="1"/>
            </Property>
            <Property name="foreground" type="java.awt.Color" editor="org.netbeans.beaninfo.editors.ColorEditor">
              <Color blue="ff" green="ff" red="ff" type="rgb"/>
            </Property>
            <Property name="text" type="java.lang.String" value="X"/>
            <Property name="cursor" type="java.awt.Cursor" editor="org.netbeans.modules.form.editors2.CursorEditor">
              <Color id="Hand Cursor"/>
            </Property>
          </Properties>
          <Events>
            <EventHandler event="mouseClicked" listener="java.awt.event.MouseListener"
parameters="java.awt.event.MouseEvent" handler="jLabel2Minimize1MouseClicked"/>
          </Events>
        </Component>
      </SubComponents>
    </Container>
    <Container class="javax.swing.JPanel" name="jPanel2">
      <Properties>
        <Property name="background" type="java.awt.Color" editor="org.netbeans.beaninfo.editors.ColorEditor">
          <Color blue="3b" green="22" red="22" type="rgb"/>
        </Property>
      </Properties>

      <Layout>
        <DimensionLayout dim="0">
          <Group type="103" groupAlignment="0" attributes="0">
            <Group type="102" attributes="0">
              <EmptySpace max="32767" attributes="0"/>
              <Group type="103" groupAlignment="0" max="-2" attributes="0">
                <Component id="jButton2registerUser" pref="250" max="32767" attributes="0"/>
                <Component id="regSensor" max="32767" attributes="0"/>
```

```
            </Group>
            <EmptySpace max="32767" attributes="0"/>
          </Group>
        </Group>
      </DimensionLayout>
      <DimensionLayout dim="1">
        <Group type="103" groupAlignment="0" attributes="0">
          <Group type="102" alignment="1" attributes="0">
            <EmptySpace pref="105" max="32767" attributes="0"/>
            <Component id="jButton2registerUser" min="-2" pref="54" max="-2" attributes="0"/>
            <EmptySpace min="-2" pref="44" max="-2" attributes="0"/>
            <Component id="regSensor" min="-2" pref="54" max="-2" attributes="0"/>
            <EmptySpace min="-2" pref="172" max="-2" attributes="0"/>
          </Group>
        </Group>
      </DimensionLayout>
    </Layout>
    <SubComponents>
      <Component class="javax.swing.JButton" name="regSensor">
        <Properties>
          <Property name="background" type="java.awt.Color" editor="org.netbeans.beaninfo.editors.ColorEditor">
            <Color blue="ff" green="86" red="3a" type="rgb"/>
          </Property>
          <Property name="font" type="java.awt.Font" editor="org.netbeans.beaninfo.editors.FontEditor">
            <Font name="Tahoma" size="14" style="0"/>
          </Property>
          <Property name="text" type="java.lang.String" value="Register a new Sensor"/>
        </Properties>
        <Events>
          <EventHandler event="mouseClicked" listener="java.awt.event.MouseListener"
parameters="java.awt.event.MouseEvent" handler="regSensorMouseClicked"/>
          <EventHandler event="actionPerformed" listener="java.awt.event.ActionListener"
parameters="java.awt.event.ActionEvent" handler="regSensorActionPerformed"/>
        </Events>
      </Component>
      <Component class="javax.swing.JButton" name="jButton2registerUser">
        <Properties>
          <Property name="background" type="java.awt.Color" editor="org.netbeans.beaninfo.editors.ColorEditor">
            <Color blue="ff" green="86" red="3a" type="rgb"/>
          </Property>
          <Property name="font" type="java.awt.Font" editor="org.netbeans.beaninfo.editors.FontEditor">
            <Font name="Tahoma" size="14" style="0"/>
          </Property>
          <Property name="text" type="java.lang.String" value="View Registered Sensors Info"/>
        </Properties>
        <Events>
          <EventHandler event="mouseClicked" listener="java.awt.event.MouseListener"
parameters="java.awt.event.MouseEvent" handler="jButton2registerUserMouseClicked"/>
          <EventHandler event="actionPerformed" listener="java.awt.event.ActionListener"
parameters="java.awt.event.ActionEvent" handler="jButton2registerUserActionPerformed"/>
        </Events>
      </Component>
    </SubComponents>
  </Container>
</SubComponents>
</Form>
```

ManageSensors.java

```java
package FireAlarmViews;

import java.rmi.RemoteException;
import java.util.logging.Level;
import java.util.logging.Logger;
import javax.swing.JFrame;

/**
 *
 * @author DELL
 */
public class ManageSensors extends javax.swing.JFrame {

    /**
     * Creates new form Manage Sensors
     */
    public ManageSensors() {
        initComponents();
        this.setLocationRelativeTo(null);
    }

    /**
     * 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">//GEN-BEGIN:initComponents
    private void initComponents() {

        jPanel1 = new javax.swing.JPanel();
        jLabel1 = new javax.swing.JLabel();
        jLabel2Minimize = new javax.swing.JLabel();
        jLabel2Minimize1 = new javax.swing.JLabel();
        jPanel2 = new javax.swing.JPanel();
        regSensor = new javax.swing.JButton();
        jButton2registerUser = new javax.swing.JButton();

        setDefaultCloseOperation(javax.swing.WindowConstants.EXIT_ON_CLOSE);
        setUndecorated(true);

        jPanel1.setBackground(new java.awt.Color(255, 22, 84));

        jLabel1.setFont(new java.awt.Font("Tahoma", 1, 24)); // NOI18N
        jLabel1.setForeground(new java.awt.Color(255, 255, 255));
        jLabel1.setText("Manage Sensors");

        jLabel2Minimize.setFont(new java.awt.Font("Tahoma", 1, 24)); // NOI18N
        jLabel2Minimize.setForeground(new java.awt.Color(255, 255, 255));
        jLabel2Minimize.setText(" -");
        jLabel2Minimize.setCursor(new java.awt.Cursor(java.awt.Cursor.HAND_CURSOR));
        jLabel2Minimize.addMouseListener(new java.awt.event.MouseAdapter() {
            public void mouseClicked(java.awt.event.MouseEvent evt) {
                jLabel2MinimizeMouseClicked(evt);
            }
```

```
    });

    jLabel2Minimize1.setFont(new java.awt.Font("Tahoma", 1, 24)); // NOI18N
    jLabel2Minimize1.setForeground(new java.awt.Color(255, 255, 255));
    jLabel2Minimize1.setText("X");
    jLabel2Minimize1.setCursor(new java.awt.Cursor(java.awt.Cursor.HAND_CURSOR));
    jLabel2Minimize1.addMouseListener(new java.awt.event.MouseAdapter() {
        public void mouseClicked(java.awt.event.MouseEvent evt) {
            jLabel2Minimize1MouseClicked(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()
            .addGap(215, 215, 215)
            .addComponent(jLabel1, javax.swing.GroupLayout.PREFERRED_SIZE, 260,
javax.swing.GroupLayout.PREFERRED_SIZE)
            .addGap(111, 111, 111)
            .addComponent(jLabel2Minimize, javax.swing.GroupLayout.PREFERRED_SIZE, 26,
javax.swing.GroupLayout.PREFERRED_SIZE)
            .addGap(18, 18, 18)
            .addComponent(jLabel2Minimize1, javax.swing.GroupLayout.PREFERRED_SIZE, 26,
javax.swing.GroupLayout.PREFERRED_SIZE)
            .addContainerGap(javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE))
    );
    jPanel1Layout.setVerticalGroup(
        jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
        .addGroup(jPanel1Layout.createSequentialGroup()
            .addGap(25, 25, 25)
            .addGroup(jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELINE)
                .addComponent(jLabel1, javax.swing.GroupLayout.PREFERRED_SIZE, 57,
javax.swing.GroupLayout.PREFERRED_SIZE)
                .addComponent(jLabel2Minimize, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)
                .addComponent(jLabel2Minimize1, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE))
            .addContainerGap(38, Short.MAX_VALUE))
    );

    jPanel2.setBackground(new java.awt.Color(34, 34, 59));

    regSensor.setBackground(new java.awt.Color(58, 134, 255));
    regSensor.setFont(new java.awt.Font("Tahoma", 0, 14)); // NOI18N
    regSensor.setText("Register a new Sensor");
    regSensor.addMouseListener(new java.awt.event.MouseAdapter() {
        public void mouseClicked(java.awt.event.MouseEvent evt) {
            regSensorMouseClicked(evt);
        }
    });
    regSensor.addActionListener(new java.awt.event.ActionListener() {
        public void actionPerformed(java.awt.event.ActionEvent evt) {
            regSensorActionPerformed(evt);
        }
    });
```

```java
        jButton2registerUser.setBackground(new java.awt.Color(58, 134, 255));
        jButton2registerUser.setFont(new java.awt.Font("Tahoma", 0, 14)); // NOI18N
        jButton2registerUser.setText("View Registered Sensors Info");
        jButton2registerUser.addMouseListener(new java.awt.event.MouseAdapter() {
            public void mouseClicked(java.awt.event.MouseEvent evt) {
                jButton2registerUserMouseClicked(evt);
            }
        });
        jButton2registerUser.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                jButton2registerUserActionPerformed(evt);
            }
        });

        javax.swing.GroupLayout jPanel2Layout = new javax.swing.GroupLayout(jPanel2);
        jPanel2.setLayout(jPanel2Layout);
        jPanel2Layout.setHorizontalGroup(
            jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addGroup(jPanel2Layout.createSequentialGroup()
                .addContainerGap(javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)
                .addGroup(jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING, false)
                    .addComponent(jButton2registerUser, javax.swing.GroupLayout.DEFAULT_SIZE, 250, Short.MAX_VALUE)
                    .addComponent(regSensor, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE))
                .addContainerGap(javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE))
        );
        jPanel2Layout.setVerticalGroup(
            jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addGroup(javax.swing.GroupLayout.Alignment.TRAILING, jPanel2Layout.createSequentialGroup()
                .addContainerGap(105, Short.MAX_VALUE)
                .addComponent(jButton2registerUser, javax.swing.GroupLayout.PREFERRED_SIZE, 54,
javax.swing.GroupLayout.PREFERRED_SIZE)
                .addGap(44, 44, 44)
                .addComponent(regSensor, javax.swing.GroupLayout.PREFERRED_SIZE, 54,
javax.swing.GroupLayout.PREFERRED_SIZE)
                .addGap(172, 172, 172))
        );

        javax.swing.GroupLayout layout = new javax.swing.GroupLayout(getContentPane());
        getContentPane().setLayout(layout);
        layout.setHorizontalGroup(
            layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addComponent(jPanel2, javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.DEFAULT_SIZE,
Short.MAX_VALUE)
            .addComponent(jPanel1, javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.DEFAULT_SIZE,
Short.MAX_VALUE)
        );
        layout.setVerticalGroup(
            layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addGroup(layout.createSequentialGroup()
                .addGap(115, 115, 115)
                .addComponent(jPanel2, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE))
            .addComponent(jPanel1, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE)
        );

        pack();
```

```java
    }// </editor-fold>//GEN-END:initComponents

    private void jLabel2MinimizeMouseClicked(java.awt.event.MouseEvent evt) {//GEN-
FIRST:event_jLabel2MinimizeMouseClicked
        this.setState(JFrame.ICONIFIED);
    }//GEN-LAST:event_jLabel2MinimizeMouseClicked

    private void jLabel2Minimize1MouseClicked(java.awt.event.MouseEvent evt) {//GEN-
FIRST:event_jLabel2Minimize1MouseClicked
        System.exit(0);
    }//GEN-LAST:event_jLabel2Minimize1MouseClicked

    private void regSensorMouseClicked(java.awt.event.MouseEvent evt) {//GEN-FIRST:event_regSensorMouseClicked
        // to load the fire alarm registration
        FireAlarmRegistration rgf = new FireAlarmRegistration();
        rgf.setVisible(true);
        rgf.pack();
        rgf.setLocationRelativeTo(null);
        rgf.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
        this.dispose();
    }//GEN-LAST:event_regSensorMouseClicked

    private void regSensorActionPerformed(java.awt.event.ActionEvent evt) {//GEN-
FIRST:event_regSensorActionPerformed
        // TODO add your handling code here:
    }//GEN-LAST:event_regSensorActionPerformed

    private void jButton2registerUserMouseClicked(java.awt.event.MouseEvent evt) {//GEN-
FIRST:event_jButton2registerUserMouseClicked

        try {
            ViewDetails viewregSensors = new ViewDetails();
        } catch (RemoteException ex) {
            Logger.getLogger(ManageSensors.class.getName()).log(Level.SEVERE, null, ex);
        }

    }//GEN-LAST:event_jButton2registerUserMouseClicked

    private void jButton2registerUserActionPerformed(java.awt.event.ActionEvent evt) {//GEN-
FIRST:event_jButton2registerUserActionPerformed
        // TODO add your handling code here:
    }//GEN-LAST:event_jButton2registerUserActionPerformed

    /**
     * @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(ManageSensors.class.getName()).log(java.util.logging.Level.SEVERE, null, ex);
        } catch (InstantiationException ex) {
            java.util.logging.Logger.getLogger(ManageSensors.class.getName()).log(java.util.logging.Level.SEVERE, null, ex);
        } catch (IllegalAccessException ex) {
            java.util.logging.Logger.getLogger(ManageSensors.class.getName()).log(java.util.logging.Level.SEVERE, null, ex);
        } catch (javax.swing.UnsupportedLookAndFeelException ex) {
            java.util.logging.Logger.getLogger(ManageSensors.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 ManageSensors().setVisible(true);
            }
        });
    }

    // Variables declaration - do not modify//GEN-BEGIN:variables
    private javax.swing.JButton jButton2registerUser;
    private javax.swing.JLabel jLabel1;
    private javax.swing.JLabel jLabel2Minimize;
    private javax.swing.JLabel jLabel2Minimize1;
    private javax.swing.JPanel jPanel1;
    private javax.swing.JPanel jPanel2;
    private javax.swing.JButton regSensor;
    // End of variables declaration//GEN-END:variables
}
```

RegisterForm.form

```xml
<?xml version="1.0" encoding="UTF-8" ?>

<Form version="1.3" maxVersion="1.9" type="org.netbeans.modules.form.forminfo.JFrameFormInfo">
  <Properties>
    <Property name="defaultCloseOperation" type="int" value="3"/>
    <Property name="undecorated" type="boolean" value="true"/>
  </Properties>
  <SyntheticProperties>
    <SyntheticProperty name="formSizePolicy" type="int" value="1"/>
    <SyntheticProperty name="generateCenter" type="boolean" value="false"/>
  </SyntheticProperties>
  <AuxValues>
    <AuxValue name="FormSettings_autoResourcing" type="java.lang.Integer" value="0"/>
    <AuxValue name="FormSettings_autoSetComponentName" type="java.lang.Boolean" value="false"/>
    <AuxValue name="FormSettings_generateFQN" type="java.lang.Boolean" value="true"/>
    <AuxValue name="FormSettings_generateMnemonicsCode" type="java.lang.Boolean" value="false"/>
    <AuxValue name="FormSettings_i18nAutoMode" type="java.lang.Boolean" value="false"/>
    <AuxValue name="FormSettings_layoutCodeTarget" type="java.lang.Integer" value="1"/>
    <AuxValue name="FormSettings_listenerGenerationStyle" type="java.lang.Integer" value="0"/>
    <AuxValue name="FormSettings_variablesLocal" type="java.lang.Boolean" value="false"/>
    <AuxValue name="FormSettings_variablesModifier" type="java.lang.Integer" value="2"/>
  </AuxValues>
```

```xml
<Layout>
  <DimensionLayout dim="0">
    <Group type="103" groupAlignment="0" attributes="0">
      <Component id="jPanel3" alignment="0" max="32767" attributes="0"/>
      <Group type="102" attributes="0">
        <Group type="103" groupAlignment="0" attributes="0">
          <Component id="jPanel1" min="-2" max="-2" attributes="0"/>
          <Component id="jPanel2" min="-2" max="-2" attributes="0"/>
        </Group>
        <EmptySpace min="0" pref="0" max="32767" attributes="0"/>
      </Group>
    </Group>
  </DimensionLayout>
  <DimensionLayout dim="1">
    <Group type="103" groupAlignment="0" attributes="0">
      <Group type="102" attributes="0">
        <Group type="103" groupAlignment="0" attributes="0">
          <Component id="jPanel1" min="-2" max="-2" attributes="0"/>
          <Component id="jPanel2" min="-2" max="-2" attributes="0"/>
        </Group>
        <Component id="jPanel3" min="-2" max="-2" attributes="0"/>
      </Group>
    </Group>
  </DimensionLayout>
</Layout>
<SubComponents>
  <Container class="javax.swing.JPanel" name="jPanel1">
    <Properties>
      <Property name="background" type="java.awt.Color" editor="org.netbeans.beaninfo.editors.ColorEditor">
        <Color blue="54" green="16" red="ff" type="rgb"/>
      </Property>
    </Properties>

    <Layout>
      <DimensionLayout dim="0">
        <Group type="103" groupAlignment="0" attributes="0">
          <Group type="102" alignment="0" attributes="0">
            <EmptySpace min="-2" pref="59" max="-2" attributes="0"/>
            <Component id="jLabel1" min="-2" pref="145" max="-2" attributes="0"/>
            <EmptySpace pref="186" max="32767" attributes="0"/>
            <Component id="jLabel2Minimize" min="-2" pref="26" max="-2" attributes="0"/>
            <EmptySpace type="unrelated" max="-2" attributes="0"/>
            <Component id="jLabel3Close" min="-2" pref="26" max="-2" attributes="0"/>
            <EmptySpace min="-2" pref="26" max="-2" attributes="0"/>
          </Group>
        </Group>
      </DimensionLayout>
      <DimensionLayout dim="1">
        <Group type="103" groupAlignment="0" attributes="0">
          <Group type="102" alignment="0" attributes="0">
            <EmptySpace max="-2" attributes="0"/>
            <Group type="103" groupAlignment="3" attributes="0">
              <Component id="jLabel1" alignment="3" max="32767" attributes="0"/>
              <Component id="jLabel2Minimize" alignment="3" pref="34" max="32767" attributes="0"/>
              <Component id="jLabel3Close" alignment="3" max="32767" attributes="0"/>
            </Group>
            <EmptySpace max="-2" attributes="0"/>
          </Group>
```

```xml
          </Group>
        </DimensionLayout>
      </Layout>
      <SubComponents>
        <Component class="javax.swing.JLabel" name="jLabel1">
          <Properties>
            <Property name="font" type="java.awt.Font" editor="org.netbeans.beaninfo.editors.FontEditor">
              <Font name="Tahoma" size="24" style="1"/>
            </Property>
            <Property name="foreground" type="java.awt.Color" editor="org.netbeans.beaninfo.editors.ColorEditor">
              <Color blue="ff" green="ff" red="ff" type="rgb"/>
            </Property>
            <Property name="text" type="java.lang.String" value="Register"/>
          </Properties>
        </Component>
        <Component class="javax.swing.JLabel" name="jLabel2Minimize">
          <Properties>
            <Property name="font" type="java.awt.Font" editor="org.netbeans.beaninfo.editors.FontEditor">
              <Font name="Tahoma" size="24" style="1"/>
            </Property>
            <Property name="foreground" type="java.awt.Color" editor="org.netbeans.beaninfo.editors.ColorEditor">
              <Color blue="ff" green="ff" red="ff" type="rgb"/>
            </Property>
            <Property name="text" type="java.lang.String" value=" -"/>
            <Property name="cursor" type="java.awt.Cursor" editor="org.netbeans.modules.form.editors2.CursorEditor">
              <Color id="Hand Cursor"/>
            </Property>
          </Properties>
          <Events>
            <EventHandler event="mouseClicked" listener="java.awt.event.MouseListener"
parameters="java.awt.event.MouseEvent" handler="jLabel2MinimizeMouseClicked"/>
          </Events>
        </Component>
        <Component class="javax.swing.JLabel" name="jLabel3Close">
          <Properties>
            <Property name="font" type="java.awt.Font" editor="org.netbeans.beaninfo.editors.FontEditor">
              <Font name="Tahoma" size="24" style="1"/>
            </Property>
            <Property name="foreground" type="java.awt.Color" editor="org.netbeans.beaninfo.editors.ColorEditor">
              <Color blue="ff" green="ff" red="ff" type="rgb"/>
            </Property>
            <Property name="text" type="java.lang.String" value="X"/>
            <Property name="cursor" type="java.awt.Cursor" editor="org.netbeans.modules.form.editors2.CursorEditor">
              <Color id="Hand Cursor"/>
            </Property>
          </Properties>
          <Events>
            <EventHandler event="mouseClicked" listener="java.awt.event.MouseListener"
parameters="java.awt.event.MouseEvent" handler="jLabel3CloseMouseClicked"/>
          </Events>
        </Component>
      </SubComponents>
    </Container>
    <Container class="javax.swing.JPanel" name="jPanel2">
      <Properties>
        <Property name="background" type="java.awt.Color" editor="org.netbeans.beaninfo.editors.ColorEditor">
          <Color blue="54" green="16" red="ff" type="rgb"/>
        </Property>
```

```
      </Properties>

    <Layout>
      <DimensionLayout dim="0">
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            <Component id="jLabel2Minimize1" min="-2" pref="26" max="-2" attributes="0"/>
            <EmptySpace type="unrelated" max="-2" attributes="0"/>
            <Component id="jLabel3Close1" min="-2" pref="26" max="-2" attributes="0"/>
            <EmptySpace min="-2" pref="26" max="-2" attributes="0"/>
          </Group>
        </Group>
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            <EmptySpace max="-2" attributes="0"/>
            <Group type="103" groupAlignment="3" attributes="0">
              <Component id="jLabel2" alignment="3" max="32767" attributes="0"/>
              <Component id="jLabel2Minimize1" alignment="3" pref="34" max="32767" attributes="0"/>
              <Component id="jLabel3Close1" alignment="3" max="32767" attributes="0"/>
            </Group>
            <EmptySpace max="-2" attributes="0"/>
          </Group>
        </Group>
      </DimensionLayout>
    </Layout>
    <SubComponents>
      <Component class="javax.swing.JLabel" name="jLabel2">
        <Properties>
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            <Font name="Tahoma" size="24" style="1"/>
          </Property>
          <Property name="foreground" type="java.awt.Color" editor="org.netbeans.beaninfo.editors.ColorEditor">
            <Color blue="ff" green="ff" red="ff" type="rgb"/>
          </Property>
          <Property name="text" type="java.lang.String" value="Registration Form"/>
        </Properties>
      </Component>
      <Component class="javax.swing.JLabel" name="jLabel2Minimize1">
        <Properties>
          <Property name="font" type="java.awt.Font" editor="org.netbeans.beaninfo.editors.FontEditor">
            <Font name="Tahoma" size="24" style="1"/>
          </Property>
          <Property name="foreground" type="java.awt.Color" editor="org.netbeans.beaninfo.editors.ColorEditor">
            <Color blue="ff" green="ff" red="ff" type="rgb"/>
          </Property>
          <Property name="text" type="java.lang.String" value=" -"/>
          <Property name="cursor" type="java.awt.Cursor" editor="org.netbeans.modules.form.editors2.CursorEditor">
            <Color id="Hand Cursor"/>
          </Property>
        </Properties>
        <Events>
          <EventHandler event="mouseClicked" listener="java.awt.event.MouseListener"
parameters="java.awt.event.MouseEvent" handler="jLabel2Minimize1MouseClicked"/>
```

```
      </Events>
    </Component>
    <Component class="javax.swing.JLabel" name="jLabel3Close1">
     <Properties>
       <Property name="font" type="java.awt.Font" editor="org.netbeans.beaninfo.editors.FontEditor">
        <Font name="Tahoma" size="24" style="1"/>
       </Property>
       <Property name="foreground" type="java.awt.Color" editor="org.netbeans.beaninfo.editors.ColorEditor">
        <Color blue="ff" green="ff" red="ff" type="rgb"/>
       </Property>
       <Property name="text" type="java.lang.String" value="X"/>
       <Property name="cursor" type="java.awt.Cursor" editor="org.netbeans.modules.form.editors2.CursorEditor">
        <Color id="Hand Cursor"/>
       </Property>
     </Properties>
     <Events>
       <EventHandler event="mouseClicked" listener="java.awt.event.MouseListener"
parameters="java.awt.event.MouseEvent" handler="jLabel3Close1MouseClicked"/>
     </Events>
    </Component>
   </SubComponents>
  </Container>
  <Container class="javax.swing.JPanel" name="jPanel3">
   <Properties>
     <Property name="background" type="java.awt.Color" editor="org.netbeans.beaninfo.editors.ColorEditor">
      <Color blue="3b" green="22" red="22" type="rgb"/>
     </Property>
     <Property name="foreground" type="java.awt.Color" editor="org.netbeans.beaninfo.editors.ColorEditor">
      <Color blue="f4" green="f2" red="ed" type="rgb"/>
     </Property>
     <Property name="font" type="java.awt.Font" editor="org.netbeans.beaninfo.editors.FontEditor">
      <Font name="Tahoma" size="18" style="0"/>
     </Property>
   </Properties>

   <Layout>
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        <Group type="103" groupAlignment="0" attributes="0">
          <Group type="102" attributes="0">
            <EmptySpace min="-2" pref="166" max="-2" attributes="0"/>
            <Component id="jButton1" min="-2" pref="80" max="-2" attributes="0"/>
            <EmptySpace min="-2" pref="56" max="-2" attributes="0"/>
            <Component id="jButton2Register" min="-2" max="-2" attributes="0"/>
          </Group>
          <Group type="102" alignment="0" attributes="0">
            <EmptySpace min="-2" pref="41" max="-2" attributes="0"/>
            <Group type="103" groupAlignment="0" attributes="0">
              <Group type="102" attributes="0">
                <Group type="103" groupAlignment="0" attributes="0">
                  <Component id="jLabel9" alignment="0" max="32767" attributes="0"/>
                  <Group type="102" attributes="0">
                    <Group type="103" groupAlignment="0" attributes="0">
                      <Component id="jLabel5" alignment="0" min="-2" pref="113" max="-2" attributes="0"/>
                      <Component id="jLabel4" min="-2" pref="98" max="-2" attributes="0"/>
                    </Group>
                    <EmptySpace min="0" pref="0" max="32767" attributes="0"/>
```

```
              </Group>
            </Group>
            <EmptySpace max="-2" attributes="0"/>
            <Group type="103" groupAlignment="0" attributes="0">
              <Component id="UserName" min="-2" pref="223" max="-2" attributes="0"/>
              <Component id="LastName" alignment="0" min="-2" pref="223" max="-2" attributes="0"/>
              <Component id="FirstName" alignment="0" min="-2" pref="223" max="-2" attributes="0"/>
              <Component id="Password" min="-2" pref="225" max="-2" attributes="0"/>
              <Component id="RePassword" min="-2" pref="225" max="-2" attributes="0"/>
            </Group>
          </Group>
          <Group type="102" attributes="0">
            <Group type="103" groupAlignment="0" attributes="0">
              <Group type="102" alignment="0" attributes="0">
                <EmptySpace min="163" pref="163" max="-2" attributes="0"/>
                <Component id="Email" min="-2" pref="223" max="-2" attributes="0"/>
              </Group>
              <Component id="jLabel8" alignment="0" min="-2" pref="113" max="-2" attributes="0"/>
              <Component id="jLabel6" min="-2" pref="113" max="-2" attributes="0"/>
              <Component id="jLabel7" min="-2" pref="113" max="-2" attributes="0"/>
            </Group>
            <EmptySpace min="0" pref="0" max="32767" attributes="0"/>
          </Group>
        </Group>
      </Group>
    </Group>
    <EmptySpace min="-2" pref="61" max="-2" attributes="0"/>
  </Group>
 </Group>
</DimensionLayout>
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      <EmptySpace min="-2" pref="50" max="-2" attributes="0"/>
      <Group type="103" groupAlignment="3" attributes="0">
        <Component id="jLabel6" alignment="3" min="-2" pref="38" max="-2" attributes="0"/>
        <Component id="FirstName" alignment="3" min="-2" pref="38" max="-2" attributes="0"/>
      </Group>
      <EmptySpace type="unrelated" max="-2" attributes="0"/>
      <Group type="103" groupAlignment="0" attributes="0">
        <Component id="jLabel7" alignment="1" min="-2" pref="38" max="-2" attributes="0"/>
        <Component id="LastName" alignment="1" min="-2" pref="38" max="-2" attributes="0"/>
      </Group>
      <EmptySpace max="-2" attributes="0"/>
      <Group type="103" groupAlignment="1" attributes="0">
        <Group type="102" alignment="1" attributes="0">
          <Component id="jLabel8" min="-2" pref="38" max="-2" attributes="0"/>
          <EmptySpace min="7" pref="7" max="-2" attributes="0"/>
        </Group>
        <Component id="Email" alignment="1" min="-2" pref="38" max="-2" attributes="0"/>
      </Group>
      <EmptySpace max="-2" attributes="0"/>
      <Group type="103" groupAlignment="0" attributes="0">
        <Group type="102" alignment="1" attributes="0">
          <Component id="jLabel5" min="-2" pref="38" max="-2" attributes="0"/>
          <EmptySpace min="-2" pref="2" max="-2" attributes="0"/>
        </Group>
        <Component id="UserName" alignment="1" min="-2" pref="38" max="-2" attributes="0"/>
```

```
        </Group>
        <Group type="103" groupAlignment="0" attributes="0">
          <Group type="102" attributes="0">
            <EmptySpace min="-2" pref="13" max="-2" attributes="0"/>
            <Component id="Password" min="-2" pref="41" max="-2" attributes="0"/>
          </Group>
          <Group type="102" alignment="0" attributes="0">
            <EmptySpace type="unrelated" max="-2" attributes="0"/>
            <Component id="jLabel4" min="-2" pref="41" max="-2" attributes="0"/>
          </Group>
        </Group>
        <EmptySpace type="separate" max="-2" attributes="0"/>
        <Group type="103" groupAlignment="3" attributes="0">
          <Component id="RePassword" alignment="3" min="-2" pref="41" max="-2" attributes="0"/>
          <Component id="jLabel9" alignment="3" min="-2" pref="41" max="-2" attributes="0"/>
        </Group>
        <EmptySpace pref="68" max="32767" attributes="0"/>
        <Group type="103" groupAlignment="3" attributes="0">
          <Component id="jButton1" alignment="3" min="-2" pref="37" max="-2" attributes="0"/>
          <Component id="jButton2Register" alignment="3" min="-2" pref="37" max="-2" attributes="0"/>
        </Group>
        <EmptySpace min="-2" pref="59" max="-2" attributes="0"/>
      </Group>
    </Group>
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</Layout>
<SubComponents>
  <Component class="javax.swing.JLabel" name="jLabel4">
    <Properties>
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        <Color blue="f4" green="f2" red="ed" type="rgb"/>
      </Property>
      <Property name="font" type="java.awt.Font" editor="org.netbeans.beaninfo.editors.FontEditor">
        <Font name="Tahoma" size="18" style="0"/>
      </Property>
      <Property name="foreground" type="java.awt.Color" editor="org.netbeans.beaninfo.editors.ColorEditor">
        <Color blue="f4" green="f2" red="ed" type="rgb"/>
      </Property>
      <Property name="text" type="java.lang.String" value="Password   :"/>
    </Properties>
  </Component>
  <Component class="javax.swing.JLabel" name="jLabel5">
    <Properties>
      <Property name="background" type="java.awt.Color" editor="org.netbeans.beaninfo.editors.ColorEditor">
        <Color blue="f4" green="f2" red="ed" type="rgb"/>
      </Property>
      <Property name="font" type="java.awt.Font" editor="org.netbeans.beaninfo.editors.FontEditor">
        <Font name="Tahoma" size="18" style="0"/>
      </Property>
      <Property name="foreground" type="java.awt.Color" editor="org.netbeans.beaninfo.editors.ColorEditor">
        <Color blue="f4" green="f2" red="ed" type="rgb"/>
      </Property>
      <Property name="text" type="java.lang.String" value="User Name :"/>
    </Properties>
  </Component>
  <Component class="javax.swing.JTextField" name="UserName">
    <Properties>
      <Property name="background" type="java.awt.Color" editor="org.netbeans.beaninfo.editors.ColorEditor">
```

```xml
                <Color blue="72" green="64" red="5e" type="rgb"/>
              </Property>
              <Property name="font" type="java.awt.Font" editor="org.netbeans.beaninfo.editors.FontEditor">
                <Font name="Tahoma" size="18" style="0"/>
              </Property>
              <Property name="foreground" type="java.awt.Color" editor="org.netbeans.beaninfo.editors.ColorEditor">
                <Color blue="ac" green="9d" red="97" type="rgb"/>
              </Property>
            </Properties>
          </Component>
          <Component class="javax.swing.JPasswordField" name="Password">
            <Properties>
              <Property name="background" type="java.awt.Color" editor="org.netbeans.beaninfo.editors.ColorEditor">
                <Color blue="72" green="64" red="5e" type="rgb"/>
              </Property>
              <Property name="font" type="java.awt.Font" editor="org.netbeans.beaninfo.editors.FontEditor">
                <Font name="Tahoma" size="18" style="0"/>
              </Property>
              <Property name="foreground" type="java.awt.Color" editor="org.netbeans.beaninfo.editors.ColorEditor">
                <Color blue="ac" green="9d" red="97" type="rgb"/>
              </Property>
            </Properties>
            <Events>
              <EventHandler event="actionPerformed" listener="java.awt.event.ActionListener"
parameters="java.awt.event.ActionEvent" handler="PasswordActionPerformed"/>
            </Events>
          </Component>
          <Component class="javax.swing.JButton" name="jButton1">
            <Properties>
              <Property name="background" type="java.awt.Color" editor="org.netbeans.beaninfo.editors.ColorEditor">
                <Color blue="36" green="1d" red="e7" type="rgb"/>
              </Property>
              <Property name="font" type="java.awt.Font" editor="org.netbeans.beaninfo.editors.FontEditor">
                <Font name="Tahoma" size="14" style="1"/>
              </Property>
              <Property name="foreground" type="java.awt.Color" editor="org.netbeans.beaninfo.editors.ColorEditor">
                <Color blue="ff" green="ff" red="ff" type="rgb"/>
              </Property>
              <Property name="text" type="java.lang.String" value="Cancel"/>
            </Properties>
            <Events>
              <EventHandler event="mouseClicked" listener="java.awt.event.MouseListener"
parameters="java.awt.event.MouseEvent" handler="jButton1MouseClicked"/>
              <EventHandler event="actionPerformed" listener="java.awt.event.ActionListener"
parameters="java.awt.event.ActionEvent" handler="jButton1ActionPerformed"/>
            </Events>
          </Component>
          <Component class="javax.swing.JButton" name="jButton2Register">
            <Properties>
              <Property name="background" type="java.awt.Color" editor="org.netbeans.beaninfo.editors.ColorEditor">
                <Color blue="ff" green="86" red="3a" type="rgb"/>
              </Property>
              <Property name="font" type="java.awt.Font" editor="org.netbeans.beaninfo.editors.FontEditor">
                <Font name="Tahoma" size="14" style="1"/>
              </Property>
              <Property name="foreground" type="java.awt.Color" editor="org.netbeans.beaninfo.editors.ColorEditor">
                <Color blue="ff" green="ff" red="ff" type="rgb"/>
              </Property>
```

```
        <Property name="text" type="java.lang.String" value="Register"/>
      </Properties>
      <Events>
        <EventHandler event="mouseClicked" listener="java.awt.event.MouseListener"
parameters="java.awt.event.MouseEvent" handler="jButton2RegisterMouseClicked"/>
        <EventHandler event="actionPerformed" listener="java.awt.event.ActionListener"
parameters="java.awt.event.ActionEvent" handler="jButton2RegisterActionPerformed"/>
      </Events>
    </Component>
    <Component class="javax.swing.JLabel" name="jLabel6">
      <Properties>
        <Property name="background" type="java.awt.Color" editor="org.netbeans.beaninfo.editors.ColorEditor">
          <Color blue="f4" green="f2" red="ed" type="rgb"/>
        </Property>
        <Property name="font" type="java.awt.Font" editor="org.netbeans.beaninfo.editors.FontEditor">
          <Font name="Tahoma" size="18" style="0"/>
        </Property>
        <Property name="foreground" type="java.awt.Color" editor="org.netbeans.beaninfo.editors.ColorEditor">
          <Color blue="f4" green="f2" red="ed" type="rgb"/>
        </Property>
        <Property name="text" type="java.lang.String" value="First Name :"/>
      </Properties>
    </Component>
    <Component class="javax.swing.JTextField" name="FirstName">
      <Properties>
        <Property name="background" type="java.awt.Color" editor="org.netbeans.beaninfo.editors.ColorEditor">
          <Color blue="72" green="64" red="5e" type="rgb"/>
        </Property>
        <Property name="font" type="java.awt.Font" editor="org.netbeans.beaninfo.editors.FontEditor">
          <Font name="Tahoma" size="18" style="0"/>
        </Property>
        <Property name="foreground" type="java.awt.Color" editor="org.netbeans.beaninfo.editors.ColorEditor">
          <Color blue="ac" green="9d" red="97" type="rgb"/>
        </Property>
      </Properties>
    </Component>
    <Component class="javax.swing.JLabel" name="jLabel7">
      <Properties>
        <Property name="background" type="java.awt.Color" editor="org.netbeans.beaninfo.editors.ColorEditor">
          <Color blue="f4" green="f2" red="ed" type="rgb"/>
        </Property>
        <Property name="font" type="java.awt.Font" editor="org.netbeans.beaninfo.editors.FontEditor">
          <Font name="Tahoma" size="18" style="0"/>
        </Property>
        <Property name="foreground" type="java.awt.Color" editor="org.netbeans.beaninfo.editors.ColorEditor">
          <Color blue="f4" green="f2" red="ed" type="rgb"/>
        </Property>
        <Property name="text" type="java.lang.String" value="Last Name :"/>
      </Properties>
    </Component>
    <Component class="javax.swing.JTextField" name="LastName">
      <Properties>
        <Property name="background" type="java.awt.Color" editor="org.netbeans.beaninfo.editors.ColorEditor">
          <Color blue="72" green="64" red="5e" type="rgb"/>
        </Property>
        <Property name="font" type="java.awt.Font" editor="org.netbeans.beaninfo.editors.FontEditor">
          <Font name="Tahoma" size="18" style="0"/>
        </Property>
```

```xml
      <Property name="foreground" type="java.awt.Color" editor="org.netbeans.beaninfo.editors.ColorEditor">
        <Color blue="ac" green="9d" red="97" type="rgb"/>
      </Property>
    </Properties>
  </Component>
  <Component class="javax.swing.JPasswordField" name="RePassword">
    <Properties>
      <Property name="background" type="java.awt.Color" editor="org.netbeans.beaninfo.editors.ColorEditor">
        <Color blue="72" green="64" red="5e" type="rgb"/>
      </Property>
      <Property name="font" type="java.awt.Font" editor="org.netbeans.beaninfo.editors.FontEditor">
        <Font name="Tahoma" size="18" style="0"/>
      </Property>
      <Property name="foreground" type="java.awt.Color" editor="org.netbeans.beaninfo.editors.ColorEditor">
        <Color blue="ac" green="9d" red="97" type="rgb"/>
      </Property>
    </Properties>
    <Events>
      <EventHandler event="actionPerformed" listener="java.awt.event.ActionListener"
parameters="java.awt.event.ActionEvent" handler="RePasswordActionPerformed"/>
    </Events>
  </Component>
  <Component class="javax.swing.JLabel" name="jLabel9">
    <Properties>
      <Property name="background" type="java.awt.Color" editor="org.netbeans.beaninfo.editors.ColorEditor">
        <Color blue="f4" green="f2" red="ed" type="rgb"/>
      </Property>
      <Property name="font" type="java.awt.Font" editor="org.netbeans.beaninfo.editors.FontEditor">
        <Font name="Tahoma" size="18" style="0"/>
      </Property>
      <Property name="foreground" type="java.awt.Color" editor="org.netbeans.beaninfo.editors.ColorEditor">
        <Color blue="f4" green="f2" red="ed" type="rgb"/>
      </Property>
      <Property name="text" type="java.lang.String" value="RetypePassword :"/>
    </Properties>
  </Component>
  <Component class="javax.swing.JLabel" name="jLabel8">
    <Properties>
      <Property name="background" type="java.awt.Color" editor="org.netbeans.beaninfo.editors.ColorEditor">
        <Color blue="f4" green="f2" red="ed" type="rgb"/>
      </Property>
      <Property name="font" type="java.awt.Font" editor="org.netbeans.beaninfo.editors.FontEditor">
        <Font name="Tahoma" size="18" style="0"/>
      </Property>
      <Property name="foreground" type="java.awt.Color" editor="org.netbeans.beaninfo.editors.ColorEditor">
        <Color blue="f4" green="f2" red="ed" type="rgb"/>
      </Property>
      <Property name="text" type="java.lang.String" value="Email        :"/>
    </Properties>
  </Component>
  <Component class="javax.swing.JTextField" name="Email">
    <Properties>
      <Property name="background" type="java.awt.Color" editor="org.netbeans.beaninfo.editors.ColorEditor">
        <Color blue="72" green="64" red="5e" type="rgb"/>
      </Property>
      <Property name="font" type="java.awt.Font" editor="org.netbeans.beaninfo.editors.FontEditor">
        <Font name="Tahoma" size="18" style="0"/>
      </Property>
    </Property>
```

```
        <Property name="foreground" type="java.awt.Color" editor="org.netbeans.beaninfo.editors.ColorEditor">
          <Color blue="ac" green="9d" red="97" type="rgb"/>
        </Property>
      </Properties>
    </Component>
  </SubComponents>
  </Container>
  </SubComponents>
</Form>
```

RegisterForm.java

```java
package FireAlarmViews;

/**
 *
 * @author DELL
 */

import java.sql.PreparedStatement;
import java.sql.ResultSet;
import java.sql.SQLException;
import java.util.logging.Level;
import java.util.logging.Logger;
import javax.swing.JFrame;
import javax.swing.JOptionPane;

public class RegisterForm extends javax.swing.JFrame {

    /**
     * Creates new form RegisterForm
     */
    public RegisterForm() {
        initComponents();
    }

    /**
     * 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">//GEN-BEGIN:initComponents
    private void initComponents() {

        jPanel1 = new javax.swing.JPanel();
        jLabel1 = new javax.swing.JLabel();
        jLabel2Minimize = new javax.swing.JLabel();
        jLabel3Close = new javax.swing.JLabel();
        jPanel2 = new javax.swing.JPanel();
        jLabel2 = new javax.swing.JLabel();
        jLabel2Minimize1 = new javax.swing.JLabel();
        jLabel3Close1 = new javax.swing.JLabel();
```

```java
jPanel3 = new javax.swing.JPanel();
jLabel4 = new javax.swing.JLabel();
jLabel5 = new javax.swing.JLabel();
UserName = new javax.swing.JTextField();
Password = new javax.swing.JPasswordField();
jButton1 = new javax.swing.JButton();
jButton2Register = new javax.swing.JButton();
jLabel6 = new javax.swing.JLabel();
FirstName = new javax.swing.JTextField();
jLabel7 = new javax.swing.JLabel();
LastName = new javax.swing.JTextField();
RePassword = new javax.swing.JPasswordField();
jLabel9 = new javax.swing.JLabel();
jLabel8 = new javax.swing.JLabel();
Email = new javax.swing.JTextField();

setDefaultCloseOperation(javax.swing.WindowConstants.EXIT_ON_CLOSE);
setUndecorated(true);

jPanel1.setBackground(new java.awt.Color(255, 22, 84));

jLabel1.setFont(new java.awt.Font("Tahoma", 1, 24)); // NOI18N
jLabel1.setForeground(new java.awt.Color(255, 255, 255));
jLabel1.setText("Register");

jLabel2Minimize.setFont(new java.awt.Font("Tahoma", 1, 24)); // NOI18N
jLabel2Minimize.setForeground(new java.awt.Color(255, 255, 255));
jLabel2Minimize.setText(" -");
jLabel2Minimize.setCursor(new java.awt.Cursor(java.awt.Cursor.HAND_CURSOR));
jLabel2Minimize.addMouseListener(new java.awt.event.MouseAdapter() {
    public void mouseClicked(java.awt.event.MouseEvent evt) {
        jLabel2MinimizeMouseClicked(evt);
    }
});

jLabel3Close.setFont(new java.awt.Font("Tahoma", 1, 24)); // NOI18N
jLabel3Close.setForeground(new java.awt.Color(255, 255, 255));
jLabel3Close.setText("X");
jLabel3Close.setCursor(new java.awt.Cursor(java.awt.Cursor.HAND_CURSOR));
jLabel3Close.addMouseListener(new java.awt.event.MouseAdapter() {
    public void mouseClicked(java.awt.event.MouseEvent evt) {
        jLabel3CloseMouseClicked(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()
        .addGap(59, 59, 59)
        .addComponent(jLabel1, javax.swing.GroupLayout.PREFERRED_SIZE, 145,
javax.swing.GroupLayout.PREFERRED_SIZE)
        .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED, 186, Short.MAX_VALUE)
        .addComponent(jLabel2Minimize, javax.swing.GroupLayout.PREFERRED_SIZE, 26,
javax.swing.GroupLayout.PREFERRED_SIZE)
        .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.UNRELATED)
```

```
                .addComponent(jLabel3Close, javax.swing.GroupLayout.PREFERRED_SIZE, 26,
javax.swing.GroupLayout.PREFERRED_SIZE)
                .addGap(26, 26, 26))
        );
        jPanel1Layout.setVerticalGroup(
            jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addGroup(jPanel1Layout.createSequentialGroup()
                .addContainerGap()
                .addGroup(jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELINE)
                    .addComponent(jLabel1, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)
                    .addComponent(jLabel2Minimize, javax.swing.GroupLayout.DEFAULT_SIZE, 34, Short.MAX_VALUE)
                    .addComponent(jLabel3Close, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE))
                .addContainerGap())
        );

        jPanel2.setBackground(new java.awt.Color(255, 22, 84));

        jLabel2.setFont(new java.awt.Font("Tahoma", 1, 24)); // NOI18N
        jLabel2.setForeground(new java.awt.Color(255, 255, 255));
        jLabel2.setText("Registration Form");

        jLabel2Minimize1.setFont(new java.awt.Font("Tahoma", 1, 24)); // NOI18N
        jLabel2Minimize1.setForeground(new java.awt.Color(255, 255, 255));
        jLabel2Minimize1.setText(" -");
        jLabel2Minimize1.setCursor(new java.awt.Cursor(java.awt.Cursor.HAND_CURSOR));
        jLabel2Minimize1.addMouseListener(new java.awt.event.MouseAdapter() {
            public void mouseClicked(java.awt.event.MouseEvent evt) {
                jLabel2Minimize1MouseClicked(evt);
            }
        });

        jLabel3Close1.setFont(new java.awt.Font("Tahoma", 1, 24)); // NOI18N
        jLabel3Close1.setForeground(new java.awt.Color(255, 255, 255));
        jLabel3Close1.setText("X");
        jLabel3Close1.setCursor(new java.awt.Cursor(java.awt.Cursor.HAND_CURSOR));
        jLabel3Close1.addMouseListener(new java.awt.event.MouseAdapter() {
            public void mouseClicked(java.awt.event.MouseEvent evt) {
                jLabel3Close1MouseClicked(evt);
            }
        });

        javax.swing.GroupLayout jPanel2Layout = new javax.swing.GroupLayout(jPanel2);
        jPanel2.setLayout(jPanel2Layout);
        jPanel2Layout.setHorizontalGroup(
            jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addGroup(jPanel2Layout.createSequentialGroup()
                .addGap(59, 59, 59)
                .addComponent(jLabel2, javax.swing.GroupLayout.PREFERRED_SIZE, 248,
javax.swing.GroupLayout.PREFERRED_SIZE)
                .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED, 93, Short.MAX_VALUE)
                .addComponent(jLabel2Minimize1, javax.swing.GroupLayout.PREFERRED_SIZE, 26,
javax.swing.GroupLayout.PREFERRED_SIZE)
                .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.UNRELATED)
                .addComponent(jLabel3Close1, javax.swing.GroupLayout.PREFERRED_SIZE, 26,
javax.swing.GroupLayout.PREFERRED_SIZE)
                .addGap(26, 26, 26))
```

```
        );
        jPanel2Layout.setVerticalGroup(
            jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addGroup(jPanel2Layout.createSequentialGroup()
                .addContainerGap()
                .addGroup(jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELINE)
                    .addComponent(jLabel2, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)
                    .addComponent(jLabel2Minimize1, javax.swing.GroupLayout.DEFAULT_SIZE, 34, Short.MAX_VALUE)
                    .addComponent(jLabel3Close1, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE))
                .addContainerGap())
        );

        jPanel3.setBackground(new java.awt.Color(34, 34, 59));
        jPanel3.setForeground(new java.awt.Color(237, 242, 244));
        jPanel3.setFont(new java.awt.Font("Tahoma", 0, 18)); // NOI18N

        jLabel4.setBackground(new java.awt.Color(237, 242, 244));
        jLabel4.setFont(new java.awt.Font("Tahoma", 0, 18)); // NOI18N
        jLabel4.setForeground(new java.awt.Color(237, 242, 244));
        jLabel4.setText("Password  :");

        jLabel5.setBackground(new java.awt.Color(237, 242, 244));
        jLabel5.setFont(new java.awt.Font("Tahoma", 0, 18)); // NOI18N
        jLabel5.setForeground(new java.awt.Color(237, 242, 244));
        jLabel5.setText("User Name :");

        UserName.setBackground(new java.awt.Color(94, 100, 114));
        UserName.setFont(new java.awt.Font("Tahoma", 0, 18)); // NOI18N
        UserName.setForeground(new java.awt.Color(151, 157, 172));

        Password.setBackground(new java.awt.Color(94, 100, 114));
        Password.setFont(new java.awt.Font("Tahoma", 0, 18)); // NOI18N
        Password.setForeground(new java.awt.Color(151, 157, 172));
        Password.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                PasswordActionPerformed(evt);
            }
        });

        jButton1.setBackground(new java.awt.Color(231, 29, 54));
        jButton1.setFont(new java.awt.Font("Tahoma", 1, 14)); // NOI18N
        jButton1.setForeground(new java.awt.Color(255, 255, 255));
        jButton1.setText("Cancel");
        jButton1.addMouseListener(new java.awt.event.MouseAdapter() {
            public void mouseClicked(java.awt.event.MouseEvent evt) {
                jButton1MouseClicked(evt);
            }
        });
        jButton1.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                jButton1ActionPerformed(evt);
            }
        });

        jButton2Register.setBackground(new java.awt.Color(58, 134, 255));
        jButton2Register.setFont(new java.awt.Font("Tahoma", 1, 14)); // NOI18N
```

```java
jButton2Register.setForeground(new java.awt.Color(255, 255, 255));
jButton2Register.setText("Register");
jButton2Register.addMouseListener(new java.awt.event.MouseAdapter() {
    public void mouseClicked(java.awt.event.MouseEvent evt) {
        jButton2RegisterMouseClicked(evt);
    }
});
jButton2Register.addActionListener(new java.awt.event.ActionListener() {
    public void actionPerformed(java.awt.event.ActionEvent evt) {
        jButton2RegisterActionPerformed(evt);
    }
});

jLabel6.setBackground(new java.awt.Color(237, 242, 244));
jLabel6.setFont(new java.awt.Font("Tahoma", 0, 18)); // NOI18N
jLabel6.setForeground(new java.awt.Color(237, 242, 244));
jLabel6.setText("First Name :");

FirstName.setBackground(new java.awt.Color(94, 100, 114));
FirstName.setFont(new java.awt.Font("Tahoma", 0, 18)); // NOI18N
FirstName.setForeground(new java.awt.Color(151, 157, 172));

jLabel7.setBackground(new java.awt.Color(237, 242, 244));
jLabel7.setFont(new java.awt.Font("Tahoma", 0, 18)); // NOI18N
jLabel7.setForeground(new java.awt.Color(237, 242, 244));
jLabel7.setText("Last Name :");

LastName.setBackground(new java.awt.Color(94, 100, 114));
LastName.setFont(new java.awt.Font("Tahoma", 0, 18)); // NOI18N
LastName.setForeground(new java.awt.Color(151, 157, 172));

RePassword.setBackground(new java.awt.Color(94, 100, 114));
RePassword.setFont(new java.awt.Font("Tahoma", 0, 18)); // NOI18N
RePassword.setForeground(new java.awt.Color(151, 157, 172));
RePassword.addActionListener(new java.awt.event.ActionListener() {
    public void actionPerformed(java.awt.event.ActionEvent evt) {
        RePasswordActionPerformed(evt);
    }
});

jLabel9.setBackground(new java.awt.Color(237, 242, 244));
jLabel9.setFont(new java.awt.Font("Tahoma", 0, 18)); // NOI18N
jLabel9.setForeground(new java.awt.Color(237, 242, 244));
jLabel9.setText("RetypePassword :");

jLabel8.setBackground(new java.awt.Color(237, 242, 244));
jLabel8.setFont(new java.awt.Font("Tahoma", 0, 18)); // NOI18N
jLabel8.setForeground(new java.awt.Color(237, 242, 244));
jLabel8.setText("Email      :");

Email.setBackground(new java.awt.Color(94, 100, 114));
Email.setFont(new java.awt.Font("Tahoma", 0, 18)); // NOI18N
Email.setForeground(new java.awt.Color(151, 157, 172));

javax.swing.GroupLayout jPanel3Layout = new javax.swing.GroupLayout(jPanel3);
jPanel3.setLayout(jPanel3Layout);
jPanel3Layout.setHorizontalGroup(
    jPanel3Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
```

```
        .addGroup(jPanel3Layout.createSequentialGroup()
          .addGroup(jPanel3Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addGroup(jPanel3Layout.createSequentialGroup()
              .addGap(166, 166, 166)
              .addComponent(jButton1, javax.swing.GroupLayout.PREFERRED_SIZE, 80,
javax.swing.GroupLayout.PREFERRED_SIZE)
              .addGap(56, 56, 56)
              .addComponent(jButton2Register))
            .addGroup(jPanel3Layout.createSequentialGroup()
              .addGap(41, 41, 41)
              .addGroup(jPanel3Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                .addGroup(jPanel3Layout.createSequentialGroup()
                  .addGroup(jPanel3Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                    .addComponent(jLabel9, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)
                    .addGroup(jPanel3Layout.createSequentialGroup()
                      .addGroup(jPanel3Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                        .addComponent(jLabel5, javax.swing.GroupLayout.PREFERRED_SIZE, 113,
javax.swing.GroupLayout.PREFERRED_SIZE)
                        .addComponent(jLabel4, javax.swing.GroupLayout.PREFERRED_SIZE, 98,
javax.swing.GroupLayout.PREFERRED_SIZE))
                      .addGap(0, 0, Short.MAX_VALUE)))
                  .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)
                  .addGroup(jPanel3Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                    .addComponent(UserName, javax.swing.GroupLayout.PREFERRED_SIZE, 223,
javax.swing.GroupLayout.PREFERRED_SIZE)
                    .addComponent(LastName, javax.swing.GroupLayout.PREFERRED_SIZE, 223,
javax.swing.GroupLayout.PREFERRED_SIZE)
                    .addComponent(FirstName, javax.swing.GroupLayout.PREFERRED_SIZE, 223,
javax.swing.GroupLayout.PREFERRED_SIZE)
                    .addComponent(Password, javax.swing.GroupLayout.PREFERRED_SIZE, 225,
javax.swing.GroupLayout.PREFERRED_SIZE)
                    .addComponent(RePassword, javax.swing.GroupLayout.PREFERRED_SIZE, 225,
javax.swing.GroupLayout.PREFERRED_SIZE)))
                .addGroup(jPanel3Layout.createSequentialGroup()
                  .addGroup(jPanel3Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                    .addGroup(jPanel3Layout.createSequentialGroup()
                      .addGap(163, 163, 163)
                      .addComponent(Email, javax.swing.GroupLayout.PREFERRED_SIZE, 223,
javax.swing.GroupLayout.PREFERRED_SIZE))
                    .addComponent(jLabel8, javax.swing.GroupLayout.PREFERRED_SIZE, 113,
javax.swing.GroupLayout.PREFERRED_SIZE)
                    .addComponent(jLabel6, javax.swing.GroupLayout.PREFERRED_SIZE, 113,
javax.swing.GroupLayout.PREFERRED_SIZE)
                    .addComponent(jLabel7, javax.swing.GroupLayout.PREFERRED_SIZE, 113,
javax.swing.GroupLayout.PREFERRED_SIZE))
                  .addGap(0, 0, Short.MAX_VALUE)))))
          .addGap(61, 61, 61))
    );
    jPanel3Layout.setVerticalGroup(
      jPanel3Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
      .addGroup(jPanel3Layout.createSequentialGroup()
        .addGap(50, 50, 50)
        .addGroup(jPanel3Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELINE)
          .addComponent(jLabel6, javax.swing.GroupLayout.PREFERRED_SIZE, 38,
javax.swing.GroupLayout.PREFERRED_SIZE)
          .addComponent(FirstName, javax.swing.GroupLayout.PREFERRED_SIZE, 38,
javax.swing.GroupLayout.PREFERRED_SIZE))
```

```
                    .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.UNRELATED)
                    .addGroup(jPanel3Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                        .addComponent(jLabel7, javax.swing.GroupLayout.Alignment.TRAILING,
javax.swing.GroupLayout.PREFERRED_SIZE, 38, javax.swing.GroupLayout.PREFERRED_SIZE)
                        .addComponent(LastName, javax.swing.GroupLayout.Alignment.TRAILING,
javax.swing.GroupLayout.PREFERRED_SIZE, 38, javax.swing.GroupLayout.PREFERRED_SIZE))
                    .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)
                    .addGroup(jPanel3Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.TRAILING)
                        .addGroup(jPanel3Layout.createSequentialGroup()
                            .addComponent(jLabel8, javax.swing.GroupLayout.PREFERRED_SIZE, 38,
javax.swing.GroupLayout.PREFERRED_SIZE)
                            .addGap(7, 7, 7))
                        .addComponent(Email, javax.swing.GroupLayout.PREFERRED_SIZE, 38,
javax.swing.GroupLayout.PREFERRED_SIZE))
                    .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)
                    .addGroup(jPanel3Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                        .addGroup(javax.swing.GroupLayout.Alignment.TRAILING, jPanel3Layout.createSequentialGroup()
                            .addComponent(jLabel5, javax.swing.GroupLayout.PREFERRED_SIZE, 38,
javax.swing.GroupLayout.PREFERRED_SIZE)
                            .addGap(2, 2, 2))
                        .addComponent(UserName, javax.swing.GroupLayout.Alignment.TRAILING,
javax.swing.GroupLayout.PREFERRED_SIZE, 38, javax.swing.GroupLayout.PREFERRED_SIZE))
                    .addGroup(jPanel3Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                        .addGroup(jPanel3Layout.createSequentialGroup()
                            .addGap(13, 13, 13)
                            .addComponent(Password, javax.swing.GroupLayout.PREFERRED_SIZE, 41,
javax.swing.GroupLayout.PREFERRED_SIZE))
                        .addGroup(jPanel3Layout.createSequentialGroup()
                            .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.UNRELATED)
                            .addComponent(jLabel4, javax.swing.GroupLayout.PREFERRED_SIZE, 41,
javax.swing.GroupLayout.PREFERRED_SIZE)))
                    .addGap(18, 18, 18)
                    .addGroup(jPanel3Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELINE)
                        .addComponent(RePassword, javax.swing.GroupLayout.PREFERRED_SIZE, 41,
javax.swing.GroupLayout.PREFERRED_SIZE)
                        .addComponent(jLabel9, javax.swing.GroupLayout.PREFERRED_SIZE, 41,
javax.swing.GroupLayout.PREFERRED_SIZE))
                    .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED, 68, Short.MAX_VALUE)
                    .addGroup(jPanel3Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELINE)
                        .addComponent(jButton1, javax.swing.GroupLayout.PREFERRED_SIZE, 37,
javax.swing.GroupLayout.PREFERRED_SIZE)
                        .addComponent(jButton2Register, javax.swing.GroupLayout.PREFERRED_SIZE, 37,
javax.swing.GroupLayout.PREFERRED_SIZE))
                    .addGap(59, 59, 59))
        );

        javax.swing.GroupLayout layout = new javax.swing.GroupLayout(getContentPane());
        getContentPane().setLayout(layout);
        layout.setHorizontalGroup(
            layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addComponent(jPanel3, javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.DEFAULT_SIZE,
Short.MAX_VALUE)
            .addGroup(layout.createSequentialGroup()
                .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                    .addComponent(jPanel1, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE)
                    .addComponent(jPanel2, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE))
```

```java
                .addGap(0, 0, Short.MAX_VALUE))
        );
        layout.setVerticalGroup(
            layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addGroup(layout.createSequentialGroup()
                .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                    .addComponent(jPanel1, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE)
                    .addComponent(jPanel2, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE))
                .addComponent(jPanel3, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE))
        );

        pack();
    }// </editor-fold>//GEN-END:initComponents

    private void jLabel2MinimizeMouseClicked(java.awt.event.MouseEvent evt) {//GEN-
FIRST:event_jLabel2MinimizeMouseClicked
        this.setState(JFrame.ICONIFIED);
    }//GEN-LAST:event_jLabel2MinimizeMouseClicked

    private void jLabel3CloseMouseClicked(java.awt.event.MouseEvent evt) {//GEN-
FIRST:event_jLabel3CloseMouseClicked
        System.exit(0);
    }//GEN-LAST:event_jLabel3CloseMouseClicked

    private void jLabel2Minimize1MouseClicked(java.awt.event.MouseEvent evt) {//GEN-
FIRST:event_jLabel2Minimize1MouseClicked
        this.setState(JFrame.ICONIFIED);
    }//GEN-LAST:event_jLabel2Minimize1MouseClicked

    private void jLabel3Close1MouseClicked(java.awt.event.MouseEvent evt) {//GEN-
FIRST:event_jLabel3Close1MouseClicked
        System.exit(0);
    }//GEN-LAST:event_jLabel3Close1MouseClicked

    private void jButton1ActionPerformed(java.awt.event.ActionEvent evt) {//GEN-FIRST:event_jButton1ActionPerformed
        // TODO add your handling code here:
    }//GEN-LAST:event_jButton1ActionPerformed

    private void jButton2RegisterActionPerformed(java.awt.event.ActionEvent evt) {//GEN-
FIRST:event_jButton2RegisterActionPerformed
        // get the details provided by the user when registering
        String firstname = FirstName.getText();
        String lastname = LastName.getText();
        String EmailAddress = Email.getText();
        String username = UserName.getText();
        String password = String.valueOf(Password.getPassword());
        String re_password = String.valueOf(RePassword.getPassword());

        // to validate the input fields of the form
        if
(firstname.equals("")||lastname.equals("")||EmailAddress.equals("")||username.equals("")||password.equals("")||re_password.e
quals("")) {
            JOptionPane.showMessageDialog(null, "Fill all Fields");
        } else if (!password.equals(re_password)) {
            JOptionPane.showMessageDialog(null, "Retype the Password Again");
```

```java
        }else{
            JOptionPane.showMessageDialog(null, "Registered successfully !!!");
            // to load the login form
            LoginForm lgf = new LoginForm();
            lgf.setVisible(true);
            lgf.pack();
            lgf.setLocationRelativeTo(null);
            lgf.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
            this.dispose();
        }

    }//GEN-LAST:event_jButton2RegisterActionPerformed

    private void PasswordActionPerformed(java.awt.event.ActionEvent evt) {//GEN-
FIRST:event_PasswordActionPerformed
        // TODO add your handling code here:
    }//GEN-LAST:event_PasswordActionPerformed

    private void RePasswordActionPerformed(java.awt.event.ActionEvent evt) {//GEN-
FIRST:event_RePasswordActionPerformed
        // TODO add your handling code here:
    }//GEN-LAST:event_RePasswordActionPerformed

    private void jButton1MouseClicked(java.awt.event.MouseEvent evt) {//GEN-FIRST:event_jButton1MouseClicked
        // to load the Home page
        Home hm = new Home();
        hm.setVisible(true);
        hm.pack();
        hm.setLocationRelativeTo(null);
        hm.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
        this.dispose();
    }//GEN-LAST:event_jButton1MouseClicked

    private void jButton2RegisterMouseClicked(java.awt.event.MouseEvent evt) {//GEN-
FIRST:event_jButton2RegisterMouseClicked

    }//GEN-LAST:event_jButton2RegisterMouseClicked

    /**
     * @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(RegisterForm.class.getName()).log(java.util.logging.Level.SEVERE, null, ex);
        } catch (InstantiationException ex) {
            java.util.logging.Logger.getLogger(RegisterForm.class.getName()).log(java.util.logging.Level.SEVERE, null, ex);
```

```java
            } catch (IllegalAccessException ex) {
                java.util.logging.Logger.getLogger(RegisterForm.class.getName()).log(java.util.logging.Level.SEVERE, null, ex);
            } catch (javax.swing.UnsupportedLookAndFeelException ex) {
                java.util.logging.Logger.getLogger(RegisterForm.class.getName()).log(java.util.logging.Level.SEVERE, null, ex);
            }
        //</editor-fold>
        //</editor-fold>

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

    // Variables declaration - do not modify//GEN-BEGIN:variables
    private javax.swing.JTextField Email;
    private javax.swing.JTextField FirstName;
    private javax.swing.JTextField LastName;
    private javax.swing.JPasswordField Password;
    private javax.swing.JPasswordField RePassword;
    private javax.swing.JTextField UserName;
    private javax.swing.JButton jButton1;
    private javax.swing.JButton jButton2Register;
    private javax.swing.JLabel jLabel1;
    private javax.swing.JLabel jLabel2;
    private javax.swing.JLabel jLabel2Minimize;
    private javax.swing.JLabel jLabel2Minimize1;
    private javax.swing.JLabel jLabel3Close;
    private javax.swing.JLabel jLabel3Close1;
    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.JLabel jLabel9;
    private javax.swing.JPanel jPanel1;
    private javax.swing.JPanel jPanel2;
    private javax.swing.JPanel jPanel3;
    // End of variables declaration//GEN-END:variables
}
```

ViewDetails.java

```java
package FireAlarmViews;

import FireAlarmModels.AllSensorDetails;
import fireAlarmSensor.Server;
import java.awt.BorderLayout;
import java.awt.Color;
import java.awt.Font;
import java.rmi.RemoteException;
import java.util.ArrayList;
import java.util.List;
import javax.swing.JFrame;
import javax.swing.JPanel;
```

```java
import javax.swing.JScrollPane;
import javax.swing.JTable;
import javax.swing.table.DefaultTableModel;
import javax.swing.table.JTableHeader;
import org.json.simple.JSONArray;

/**
 *
 * @author DELL
 */
public class ViewDetails {
//      JFrame frame;
//      JTable table;

    public ViewDetails() throws RemoteException
    {
//        setLocationRelativeTo(null);
//        setSize(600,400);
//        setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
//        // setVisible(true);

        // Frame initiallization
        JFrame frame = new JFrame();
        JTable table=new JTable();
        // Frame Title
        frame.setTitle("All Registered Sensor Details");

//        for(AllSensorDetails sensor : sensorDetails){
//            System.out.println("********Fetched Details********");
//            System.out.println(sensor.getId());
//            System.out.println(sensor.getFloorNo());
//            System.out.println(sensor.getRoomNo());
//            System.out.println(sensor.getCo2Level());
//            System.out.println(sensor.getSmokeLevel());
//        }
        // Data to be displayed in the JTable
        String[][] data = {
            { "1", "4", "3","F1","F101","0","Deactive" },
            { "2", "5", "7","F2","F203","1","Active" },
            { "3", "2", "8","F3","F304","1","Active" },
            { "4", "4", "1","F3","F305","0","Deactive" },
            { "5", "5", "7","F1","F102","1","Active" },
            { "6", "6", "9","F2","F206","1","Active" }
        };
//
        // Column Names
        String[] columnNames = { "Sensor ID", "Co2 Level", "Smoke Level","Floor Number","Room Number","Sensor
status","Action" };


        // Initializing the JTable
        table= new JTable(data, columnNames);
        table.setBounds(30, 40, 200, 300);
//
        Font font = new Font("Verdana", Font.PLAIN, 20);
        table.setFont(font);
        table.setRowHeight(50);
        table.setBackground(Color.LIGHT_GRAY);
```

```java
        table.setForeground(Color.black);

        JTableHeader tableHeader = table.getTableHeader();
        tableHeader.setFont(font);
        tableHeader.setBackground(Color.black);
        tableHeader.setForeground(Color.white);

        // adding it to JScrollPane
        JScrollPane jScrollPane = new JScrollPane(table);
        frame.add(jScrollPane);
        // Frame Size
        frame.setSize(500, 200);
        // Frame Visible = true
        frame.setVisible(true);
    }

    public static void main(String[] args) throws RemoteException {
        new ViewDetails();

//      ViewDetails viewDetails= new ViewDetails();
//      Server s1=new Server();
//
//          List<AllSensorDetails> sensorDetails = new ArrayList<>();
//          sensorDetails = s1.allRetrieveDetails();
//
//      JTable table=new JTable();
//      DefaultTableModel defaultModel= new DefaultTableModel();
//      Object[] columnNames = new Object[5];
//      columnNames[0]= "Sensor Id";
//      columnNames[1]= "Floor No";
//      columnNames[2]= "Room No";
//      columnNames[3]= "Co2 Level";
//      columnNames[4]= "Smoke Level";
//////    columnNames[5]= "Sensor Id";
//
//
//      defaultModel.setColumnIdentifiers(columnNames);
//      Object[] rowData = new Object[5];
//
//      for(int i=0; i< sensorDetails.size();i++){
//        System.out.println("for");
//        rowData[0]=sensorDetails.get(i).getId();
//        rowData[1]=sensorDetails.get(i).getFloorNo();
//        rowData[2]=sensorDetails.get(i).getRoomNo();
//        rowData[3]=sensorDetails.get(i).getCo2Level();
//        rowData[4]=sensorDetails.get(i).getSmokeLevel();
//        defaultModel.addRow(rowData);
//        System.out.println(rowData[0]);
//        System.out.println(rowData[1]);
//        System.out.println(rowData[2]);
//        System.out.println(rowData[3]);
//        System.out.println(rowData[4]);
//      }
//      table.setModel(defaultModel);
//
//
//      JPanel panel= new JPanel();
//      JScrollPane pane=new JScrollPane(table);
```

```
//      panel.setLayout(new BorderLayout());
//
//      panel.add(pane, BorderLayout.CENTER);
//      viewDetails.setContentPane(panel);
//      viewDetails.setSize(600,400);
//      viewDetails.setVisible(true);
//
 }
}
```

3. References

[1]. Bahman A Sassani, Maria Villapol, Noreen Jamil and Muhammad Ghulam Abbas Malik, "An IoT based Fire Alerting System: Design and Implementation" in Journal of Ambient Intelligence and Smart Environments, Germany, December 2019

[2]. Vladimir Vujovic, Mirjana Maksimovic, Dijana Kosmajac and Vladimir Milosevic, "Web Integration of REST Enabled Wireless Sensor Networks for Fire Detection" International Conference on Applied Internet and Information Technologies, At Zrenjanin, Serbia, October 2013