11.1.1 Code for sensor to work

```
#include <LiquidCrystal.h>
LiquidCrystal lcd( 9,8, 7, 6, 5, 4); // (rs,en,d4,d5,d6,d7)

int TEMP    = A0;
int CONDU_SNS_PIN= A1;
void TEMP_READ(void);
void CONDU_READ(void);

int COND_ADC=0;

void setup() {
  lcd.begin(16, 2);
  //lcd.clear();
  pinMode(TEMP,    INPUT);
  pinMode(CONDU_SNS_PIN,    INPUT);
  lcd.setCursor(0, 0);
  lcd.print("    WATER QUALITY    ");
    lcd.setCursor(0, 1);
  lcd.print(" MONITOR SYSTEM    ");
  delay(100);


  }
void loop() {

  delay(400);
  lcd.clear();
    TEMP_READ();
    CONDU_READ();
 }



 void TEMP_READ(void)
{
   int ADC;
   int Temp;
  ADC = analogRead(TEMP);

    if(ADC>610){
           Temp = 25+(( ADC-610)/2);
    }else{
            Temp = 25-((610- ADC)/2);
    }
     lcd.setCursor(0, 0);
    lcd.print("Temp:    ");
    lcd.setCursor(5, 0);
    lcd.print(Temp);
    lcd.print("c");

  }

void CONDU_READ(void){
    int smoke;
      COND_ADC=analogRead(CONDU_SNS_PIN);


      if(COND_ADC>1000){
          lcd.setCursor(0, 1);
        lcd.print("INSCERT SNS IN WATER    ");
    }else if((COND_ADC<850)&&(COND_ADC>550)){
        lcd.setCursor(0, 1);
        lcd.print("DRINKABLE WATER      ");
            }else if(COND_ADC<540){
          lcd.setCursor(0, 1);
          lcd.print("BAD QUALITY WATER    ");
      }
          lcd.setCursor(9, 0);
      lcd.print("C:");
      lcd.setCursor(11,0);
      lcd.print(COND_ADC);


}
```

11.1.2 Diseases control.java

```
package com.xvitcoder.springmvcangularjs.controller;



import java.time.LocalDateTime;

import java.time.ZoneId;

import java.time.ZonedDateTime;

import java.time.format.DateTimeFormatter;
import java.util.List;

import org.springframework.beans.factory.annotation.Autowired;
import org.springframework.stereotype.Controller;
import org.springframework.web.bind.annotation.RequestMapping;
import org.springframework.web.bind.annotation.RequestMethod;
import org.springframework.web.bind.annotation.RequestParam;
import org.springframework.web.bind.annotation.ResponseBody;

import com.xvitcoder.springmvcangularjs.beans.model;
import com.xvitcoder.springmvcangularjs.service.serviceinterface;
import com.xvitcoder.springmvcangularjs.service.sms;

@Controller
@RequestMapping("/disease")
public class diseaseController {
    private static final String DATE_FORMAT = "dd-M-yyyy hh:mm:ss a z";
    private static final DateTimeFormatter formatter =
DateTimeFormatter.ofPattern(DATE_FORMAT);
    public static int smscount=0;
    public static int smscount2=0;
```

```
@Autowired

private serviceinterface trService;



@RequestMapping("/lists")

public @ResponseBody List<model> gettrList() {

    return trService.getlist();

}





@RequestMapping(value = "/send", method = RequestMethod.GET)

public @ResponseBody void sndss(@RequestParam String field1,@RequestParam String field2,@RequestParam String field3,@RequestParam String field4) {



    String s1="PUMP IS OFF";

    if (field4.equals("1")) {

        s1="PUMP IS ON";


    }
```

```
model rw =    new model();

ZoneId fromTimeZone = ZoneId.of("Asia/Kolkata");


LocalDateTime todays = LocalDateTime.now();                    //Current time0

ZonedDateTime currentISTime = todays.atZone(fromTimeZone);

String todayy=    currentISTime.toString();

String repstr=    todayy.replaceAll("[Asia/Kolkata]", "");

String sustr= repstr.substring(0, 19);

rw.setF1(field1);

rw.setF2(field2);

rw.setF3(field3);

rw.setF4(s1);

rw.setDate(sustr);

if (field4.equals("1")) {

      sms s =    new sms();

      s.sendSMS("8073183401","\n PUMP IS ON\n");


} else if (field4.equals("0")) {

      sms s =    new sms();

      s.sendSMS("8073183401","\n PUMP IS OFF\n");

}

trService.add(rw);
```

```
}

    @RequestMapping("/layout")

    public String getCarPartialPage() {

        return "disease/layout";



    }

}
```

11.1.3 Model. Java

```java
package com.xvitcoder.springmvcangularjs.beans;


public class model {


    private String f1;

    private String f2;

    private String f3;

    private String f4;

    public String getF3() {

        return f3;

    }

    public void setF3(String f3) {

        this.f3 = f3;

    }

    public String getF4() {

        return f4;

    }

    public void setF4(String f4) {

        this.f4 = f4;
    }




    private String date;

    public String getF1() {

        return f1;

    }

    public void setF1(String f1) {

        this.f1 = f1;

    }

    public String getF2() {

        return f2;

    }

    public void setF2(String f2) {

        this.f2 = f2;

    }



    public String getDate() {

        return date;

    }

    public void setDate(String date) {

        this.date = date;

    }


}
```

11.1.4 SMS.java

package com.xvitcoder.springmvcangularjs.service;

```
import java.io.BufferedReader;

import java.io.InputStreamReader;

import java.net.HttpURLConnection;

import java.net.URL;

import java.net.URLEncoder;

import java.util.Date;


public class sms {


    public    static void sendSMS(String mobileNumber,String text) {

        try{

              Date mydate = new Date(System.currentTimeMillis());

              String data = "";

              data += "sendMethod=simpleMsg";

              data += "&userId=mitron";

              data += "&password=" + URLEncoder.encode("Mitron@123456",
"UTF-8");

              data += "&msg=" + URLEncoder.encode(text + mydate.toString(),
"UTF-8");

              data += "&mobile=" + URLEncoder.encode(mobileNumber,
"UTF-8");

              data += "&msgType=text";

              data += "&format=json";
```

```
                data += "&senderId=CAKEML";

                URL url = new
URL("https://www.smsgateway.center/SMSApi/rest/send?" + data);

                HttpURLConnection conn = (HttpURLConnection)
url.openConnection();

                conn.setRequestMethod("GET");

                conn.setDoOutput(true);

                conn.setDoInput(true);

                conn.setUseCaches(false); conn.connect();

                BufferedReader rd = new BufferedReader(new
InputStreamReader(conn.getInputStream()));

                String line;

                StringBuffer buffer = new StringBuffer();

                while((line = rd.readLine()) != null){

                    buffer.append(line).append("\n");

                }

                System.out.println(buffer.toString());

                rd.close();

                conn.disconnect();

            }

            catch (Exception e){

                e.printStackTrace();

            }

    }
```

```
}
```

11.1.5 Service interface.java

```
package com.xvitcoder.springmvcangularjs.service;


import java.util.List;


import com.xvitcoder.springmvcangularjs.beans.model;


public interface serviceinterface {


    void add(model tr);


    List<model> getlist();


}
```

11.1.6 Service impl.java

```
package com.xvitcoder.springmvcangularjs.service;


import java.util.ArrayList;

import java.util.List;


import org.springframework.stereotype.Service;
import com.xvitcoder.springmvcangularjs.beans.model;
@Service("rainWaterservice")


public class serviceimpl implements    serviceinterface {
      public static ArrayList<model>      arr=    new ArrayList<model>();


      @Override
      public void add(model tr) {
              arr.add(tr)   ;
      }


      @Override
      public List<model> getlist() {
            // TODO Auto-generated method stub
            return arr;
      }


}
```

11.1.7 Layout.java

```
<div style="width: 1000px;">


      <marquee style="color: black">Water Monitoring with PH using
```

```
        IoT </marquee>




    <div class="input-append">

        <!--   <input style="width:358px; margin-left: 100px;" class="span2"
type="text" ng-model="carName" required="required" min="1" />

     <button class="btn btn-primary" ng-disabled="!carName"
ng-click="addNewCar(carName)">Add Car</button> -->

    </div>



    <h3 style="margin-left: 100px; color: black">


        &nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;

        &nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;

        &nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;

        &nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;Water Monitoring with
PH

        using IoT</h3>



    <div class="alert alert-info"

        style="width: 1000px; margin-left: 100px;" ng-show="trf.length == 0">
        No Data found</div>


    <div class="table-responsive-lg" id="angular-with-newlines">



        <table class="table "

            style="width: 1000px; background-color: #3394b7; margin-left: 30px;"

            ng-show="trf.length > 0">

            <thead>

                <tr>


                    <th style="text-align: center; width: 25px;"><span id="time"

                        style="font-size: 20px; color: #f70909">
Time</span></th>


                    <th style="text-align: center;"><span id="time"

                        style="font-size: 20px; color:
#f70909">Temperature</span></th>


                    <th style="text-align: center;"><span id="time"

                        style="font-size: 20px; color: #f70909">Ph</span></th>

                    <th style="text-align: center;"><span id="time"

                        style="font-size: 20px; color: #f70909">Conductivity
</span></th>
```

```
                    <th style="text-align: center;"><span id="time"
                        style="font-size: 20px; color: #f70909">PUMP Status
</span></th>









                </tr>
            </thead>
            <tbody>

                <tr ng-repeat="tr in trf|limitTo:-1|orderBy:'-date' ">
                    <td><span style="font-size:
17px"><center>{{tr.date}}</center></span></td>
                    <td><span style="font-size: 17px; text-align:
left"><center>{{tr.f1}}&#8451;</center></span>
                    </td>
                    <td><span style="font-size:
17px"><center>{{tr.f2}}</center></span>
                    </td>
                       <td><span style="font-size:
17px"><center>{{tr.f3}}</center></span>
                    </td>
```

```
                      <td><span style="font-size:
17px"><center>{{tr.f4}}</center></span>

                    </td>







                    <!--   <td   style="width:70px;text-align:center;"><button
class="btn btn-mini btn-danger"
ng-click="removeCar(car)">Remove</button></td>-->



                </tr>

            </tbody>

        </table>

    </div>

    <div></div>



    <!--   <button style="margin-left:100px;"   class="btn btn-danger"
ng-show="cars.length > 1" ng-click="playAudio()">Clear</button>-->



</div>



<style>

marquee {
    color: black;
    font-size: 16px;
}

th {
    color: #c44f15;
}

td {
    color: white;
}

#angular-with-newlines {
    white-space: pre-wrap;
}

#id {
    size: 19px;
}

#values {
    size: 13px;
}
```

</style>