

```
#define BLYNK_TEMPLATE_ID "TMPL3i4qhPy05"
#define BLYNK_TEMPLATE_NAME "NodeMCU"
#define BLYNK_DEVICE_NAME "NodeMCU"
#define BLYNK_FIRMWARE_VERSION "0.1.0"
```

```
#define BLYNK_PRINT Serial
// #define BLYNK_DEBUG
#include <ESP8266WiFi.h>
```

```
WiFiClient WIFI_CLIENT;
#define APP_DEBUG
#include "BlynkEdgent.h"
#define trig D7
#define echo D8
#define call D0
#define pin_open D1
#define pin_close D2
#include <Servo.h>
Servo myservo;
```

```
float level = 0;
int flow = 0;
```

```
BLYNK_CONNECTED() {
  Blynk.virtualWrite(V1, level);
  Blynk.syncVirtual(V2);
}
void setup()
{
  Serial.begin(9600);
  delay(100);
  pinMode(trig, OUTPUT);
  pinMode(echo, INPUT);
  pinMode(call, INPUT);
  pinMode(pin_open, OUTPUT);
  pinMode(pin_close, OUTPUT);
  BlynkEdgent.begin();
}
```

```
BLYNK_WRITE(V2) {

  int t = param.asInt();

  if (t == 0 && flow == 1) {
    valve_open();
    digitalWrite(pin_close, LOW);
    delayMicroseconds(2);
    digitalWrite(pin_close, HIGH);
    delayMicroseconds(15);
    digitalWrite(pin_close, LOW);
    flow = 0;
  }

  if (t == 1 && flow == 0) {
    valve_close();
    digitalWrite(pin_open, LOW);
    delayMicroseconds(2);
    digitalWrite(pin_open, HIGH);
  }
}
```

```

    delayMicroseconds(15);
    digitalWrite(pin_open, LOW);
    flow = 1;
}

if (level <= 30 && flow == 0) {
    myservo.attach(D5);
    myservo.write(90);
    digitalWrite(pin_close, LOW);
    delayMicroseconds(2);
    digitalWrite(pin_close, HIGH);
    delayMicroseconds(15);
    digitalWrite(pin_close, LOW);
    flow = 0;
    Blynk.virtualWrite(V2, 0);
}
}

void loop() {
    delay(1000);
    sendSensor();

    if (digitalRead(call)) {
        Serial.println("Call attendant");
        //Blynk.logEvent("call_attendant", "Your presence is being asked by the patient");
        //Blynk.logEvent("tarp");
    }
    if(level>10){
        myservo.attach(D5);
        myservo.write(0);
        Serial.println("Call attendant4");
        myservo.detach();
    }

    if (level < 10) {
        myservo.attach(D5);
        myservo.write(180);
        myservo.detach();
        //Blynk.logEvent("low_level", "The fluid level is below 10 percent");
        Serial.println("Call attendant 2");
        Blynk.logEvent("tarp");
    }
    BlynkEdgent.run();
}

void valve_open() {
    myservo.attach(D5);
    delay(500);
    Serial.println("Servo COnnected");
    myservo.writeMicroseconds(1600);
    for (int angle = 0; angle <= 180; angle += 1) {
        myservo.write(angle); // Set servo position using the 'write' function
        delay(15); // Delay to allow the servo to reach the position
    }
    delay(2000);
    Serial.println("Servo rotation complete");
    myservo.detach();
    Serial.println("End");
    delay(1000);
}

```

```

void valve_close() {
  myservo.attach(5);
  delay(500);
  myservo.writeMicroseconds(1500);

  delay(4000);
  myservo.detach();
  Serial.println("End");
  delay(1000);
}

void sendSensor() {
  digitalWrite(trig, LOW);
  delayMicroseconds(2);

  digitalWrite(trig, HIGH);
  delayMicroseconds(10);
  digitalWrite(trig, LOW);

  float duration = pulseIn(echo, HIGH);
  float distance = duration * 0.034 / 2;

  Serial.print("Distance : ");
  Serial.println(distance);

  level = (20 - distance) / 15 * 100;
  Serial.println(level);
  if(level < 0){
    level = 0;
  }

  Serial.print("level % : ");

  Blynk.virtualWrite(V1, level);
}

```