

```
#include <ESP8266WiFi.h>
```

```
#include <Servo.h>
```

```
const char* ssid = "AcquicBotX";
```

```
const char* password = "12345678";
```

```
WiFiServer server(80);
```

```
// Pins
```

```
#define MQ135 A0
```

```
#define IR_SENSOR D1
```

```
#define SERVO_PROPULSION D2
```

```
#define SERVO_WING D3
```

```
#define L298N_IN1 D4
```

```
#define L298N_IN2 D5
```

```
#define RELAY_PUMP D6
```

```
#define TRIG D7
```

```
#define ECHO D8
```

```
#define BATTERY_PIN A0
```

```
Servo propulsionServo;
```

```
ServowingServo;
```

```
int gasThreshold = 400;
```

```
int batteryLevel = 0;
```

```
void setup() {
```

```
    Serial.begin(115200);
```

```
    WiFi.softAP(ssid, password);
```

```
    server.begin();
```

```
    pinMode(IR_SENSOR, INPUT);
```

```
    pinMode(L298N_IN1, OUTPUT);
```

```
    pinMode(L298N_IN2, OUTPUT);
```

```
    pinMode(RELAY_PUMP, OUTPUT);
```

```
    pinMode(TRIG, OUTPUT);
```

```
    pinMode(ECHO, INPUT);
```

```
    propulsionServo.attach(SERVO_PROPULSION);
```

```
    wingServo.attach(SERVO_WING);
```

```
    digitalWrite(RELAY_PUMP, LOW);
```

```
}
```

```
long readUltrasonicDistance() {  
    digitalWrite(TRIG, LOW);  
    delayMicroseconds(2);  
    digitalWrite(TRIG, HIGH);  
    delayMicroseconds(10);  
    digitalWrite(TRIG, LOW);  
    return pulseIn(ECHO, HIGH) / 58;  
}
```

```
void loop() {  
    WiFiClient client = server.available();  
    if (client) {  
        String request =  
client.readStringUntil('\r');  
        client.flush();  
  
        if (request.indexOf("/forward") != -1) {  
            propulsionServo.write(0);  
        } else if (request.indexOf("/backward") !=  
-1) {  
            propulsionServo.write(180);  
        } else if (request.indexOf("/left") != -1) {
```

```
wingServo.write(0);  
} else if (request.indexOf("/right") != -1) {  
    wingServo.write(180);  
} else if (request.indexOf("/stop") != -1) {  
    propulsionServo.write(90);  
} else if (request.indexOf("/feed") != -1) {  
    digitalWrite(L298N_IN1, HIGH);  
    digitalWrite(L298N_IN2, LOW);  
    delay(1000);  
    digitalWrite(L298N_IN1, LOW);  
    digitalWrite(L298N_IN2, LOW);  
} else if (request.indexOf("/pump") != -1) {  
    digitalWrite(RELAY_PUMP, HIGH);  
    delay(2000);  
    digitalWrite(RELAY_PUMP, LOW);  
}
```

```
int gasValue = analogRead(MQ135);  
int oilDetected =  
digitalRead(IR_SENSOR) == LOW;  
long distance = readUltrasonicDistance();  
batteryLevel =  
map(analogRead(BATTERY_PIN), 0, 1023, 0,
```

100);

```
String response = "<!DOCTYPE  
html><html><head><title>Acquic Bot X</  
title></head><body>";
```

```
    response += "<h2>Acquic Bot X  
Dashboard</h2>";
```

```
    response += "<p><a href=\"/  
forward\">Forward</a> | <a href=\"/  
backward\">Backward</a> |";
```

```
    response += "<a href=\""/left\">Left</a> |  
<a href=\""/right\">Right</a> | <a href=\"/  
stop\">Stop</a></p>";
```

```
    response += "<p><a href=\""/feed\">Feed  
Fish</a> | <a href=\""/pump\">Pump Water</  
a></p>";
```

```
    response += "<p>Gas Level: " +  
String(gasValue) + "</p>";
```

```
    response += "<p>Oil Detected: " +  
String(oilDetected ? "Yes" : "No") + "</p>";
```

```
    response += "<p>Battery: " +  
String(batteryLevel) + "%</p>";
```

```
    response += "<p>Distance (cm): " +
```

```
String(distance) + "</p>";
    response += "</body></html>";

    client.print("HTTP/1.1 200
OK\r\nContent-Type: text/html\r\n\r\n");
    client.print(response);
    client.stop();

    if (gasValue > gasThreshold) {
        Serial.println("BLE ALERT: High gas
levels detected!");
    }
}
}
```