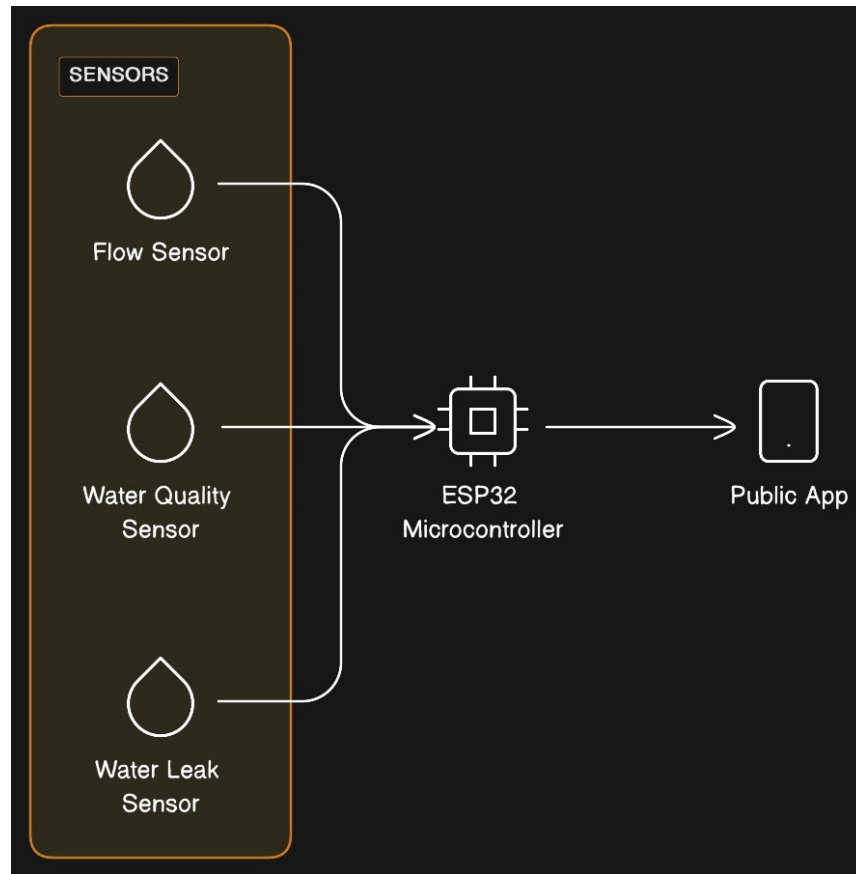


# SMART WATER MANAGEMENT



```
from machine import Pin
import time
import network
import blynklib
```

```
WIFI_SSID = 'YourNetworkSSID'
WIFI_PASSWORD = 'YourNetworkPassword'
BLYNK_AUTH = 'YourAuthToken'
```

```
# Connect to WiFi
wifi = network.WLAN(network.STA_IF)
wifi.active(True)
wifi.connect(WIFI_SSID, WIFI_PASSWORD)
```

```
# Wait for the connection to be established
while not wifi.isconnected():
    time.sleep(1)
```

```
blynk = blynklib.Blynk(BLYNK_AUTH)
```

```
# Define the pins for your sensors
```

```
FLOW_SENSOR_PIN = 14
```

```
PRESSURE_SENSOR_PIN = 27
```

```
LEAK_SENSOR_PIN = 32
```

```
# Set up the pins
```

```
flow_sensor = Pin(FLOW_SENSOR_PIN, Pin.IN)
```

```
pressure_sensor = Pin(PRESSURE_SENSOR_PIN, Pin.IN)
```

```
leak_sensor = Pin(LEAK_SENSOR_PIN, Pin.IN)
```

```
def read_sensors():
```

```
    flow_rate = flow_sensor.value()
```

```
    pressure = pressure_sensor.value()
```

```
    leak_detected = leak_sensor.value()
```

```
# Send the sensor values to Blynk
```

```
blynk.virtual_write(0, flow_rate)
```

```
blynk.virtual_write(1, pressure)
```

```
blynk.virtual_write(2, leak_detected)
```

```
while True:
```

```
    read_sensors()
```

```
    blynk.run()
```

```
    time.sleep(1)
```

The screenshot shows the Wokwi IDE interface. On the left, the 'main.py' file contains the following code:

```
1 from machine import Pin
2 import time
3 import network
4 import blynklib
5
6 WIFI_SSID = 'wokwi-GUEST'
7 WIFI_PASSWORD = ''
8 BLYNK_AUTH = '21a8Ex6EX0eCXHmZIpI9Vfn31a-9Y3QU'
9
10 # Connect to WiFi
11 wifi = network.WLAN(network.STA_IF)
12 wifi.active(True)
13 wifi.connect(WIFI_SSID, WIFI_PASSWORD)
14
15 # Wait for the connection to be established
16 while not wifi.isconnected():
17     time.sleep(1)
18
19 blynk = blynklib.Blynk(BLYNK_AUTH)
20
21 # Define the pins for your sensors
22 FLOW_SENSOR_PIN = 14
23 PRESSURE_SENSOR_PIN = 27
24 LEAK_SENSOR_PIN = 32
25
26 # Set up the pins
27 flow_sensor = Pin(FLOW_SENSOR_PIN, Pin.IN)
28 pressure_sensor = Pin(PRESSURE_SENSOR_PIN, Pin.IN)
29 leak_sensor = Pin(LEAK_SENSOR_PIN, Pin.IN)
```

The simulation window on the right shows a breadboard with an ESP32 module and an HC-SR04 ultrasonic sensor. The console at the bottom displays the following output:

```
mode:DIO, clock div:2
load:0x3fff0030,len:4728
load:0x40078000,len:14876
ho 0 tail 12 room 4
load:0x40080400,len:3368
entry 0x400805cc
Traceback (most recent call last):
  File "main.py", line 4, in <module>
    ImportError: no module named 'blynklib'
MicroPython v1.21.0 on 2023-10-05; Generic ESP32 module with ESP32
Type "help()" for more information.
>>>
```