

Name: Chandran A P

Project Title: Water Level Controller

Context:

I began the Thinger project as a hobby, and over time, it has evolved into an essential part of my home automation system.

Overview:

The Water Level Controller is designed to control and maintain water levels in both overhead and sump tanks, ensuring efficient water usage and preventing pump malfunctions.

Hardware Used:

1. **Wemos D1 R1** – 2 units
2. **Ultrasonic Distance Sensor**
3. **Pressure Switch**

Project Goals:

- **Monitor and Maintain Water Levels** in the overhead tank.
- **Monitor and Maintain Water Levels** in the sump tank.
- Provide **low water level warnings** to alert of potential water shortages.
- **Check the health of the water pump** and stop it in case of any faults.
- **Calculate water usage** by integrating water meter readings based on tank volume, with an online display.
- **Automatically switch pumps on and off** as needed.
- **Manual Mode** for user control over pumps when necessary.
- **Alexa Integration** (In progress).

Outcome:

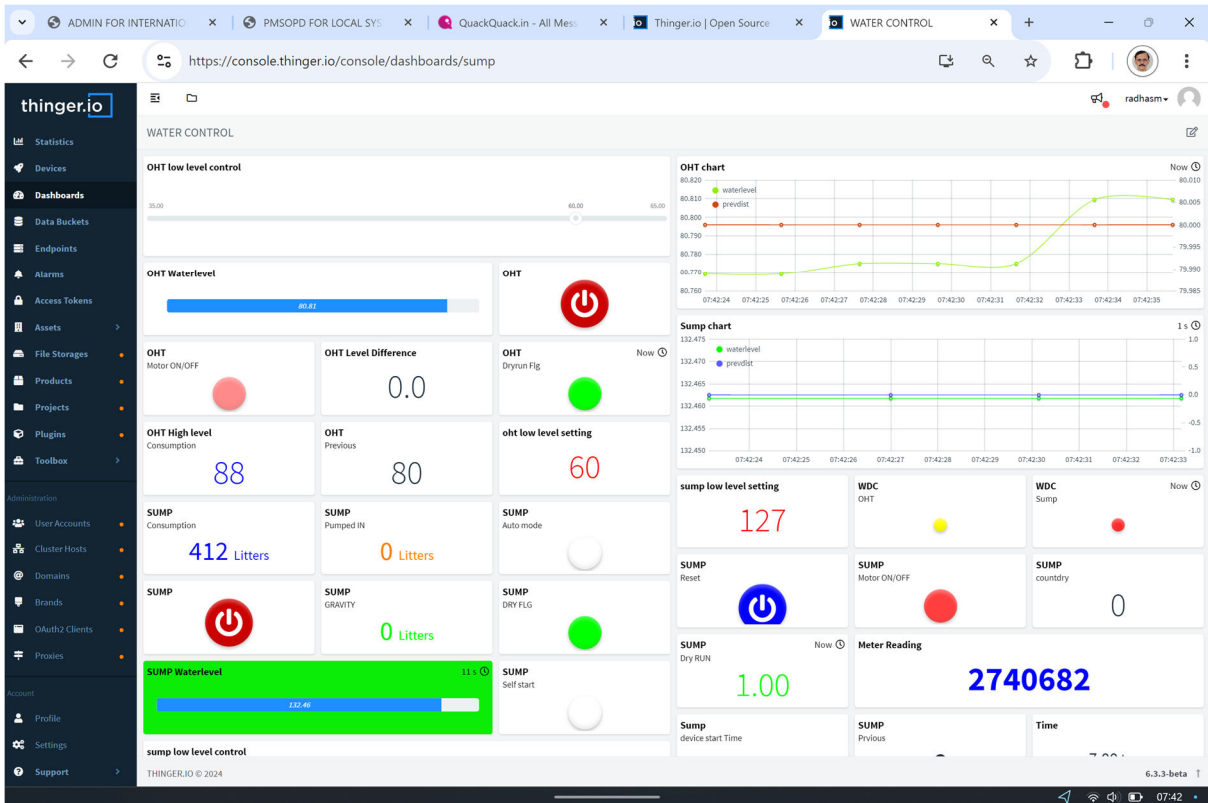
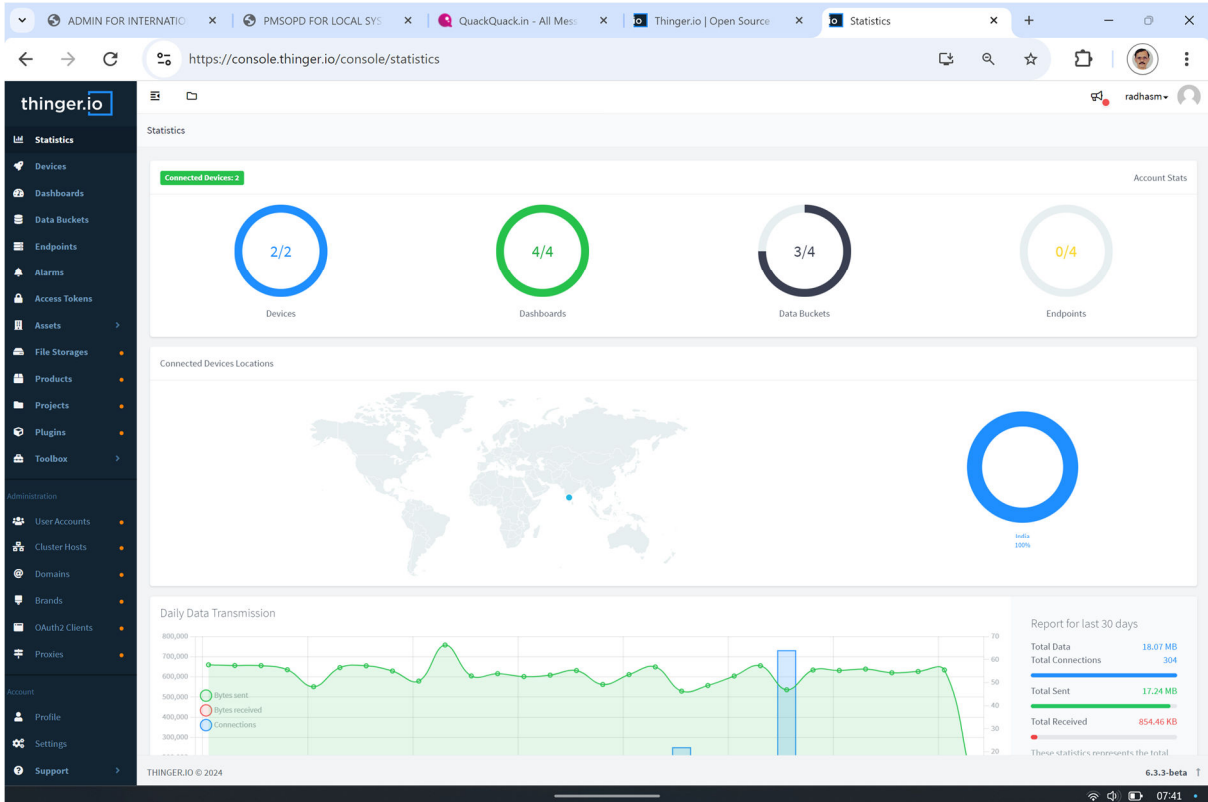
All project goals have been successfully achieved, except for the Alexa integration, which is still in progress. The controller system has been operating seamlessly for the past 3–4 years. I am extremely thankful to Thinger.io for their support in providing such a wonderful system.

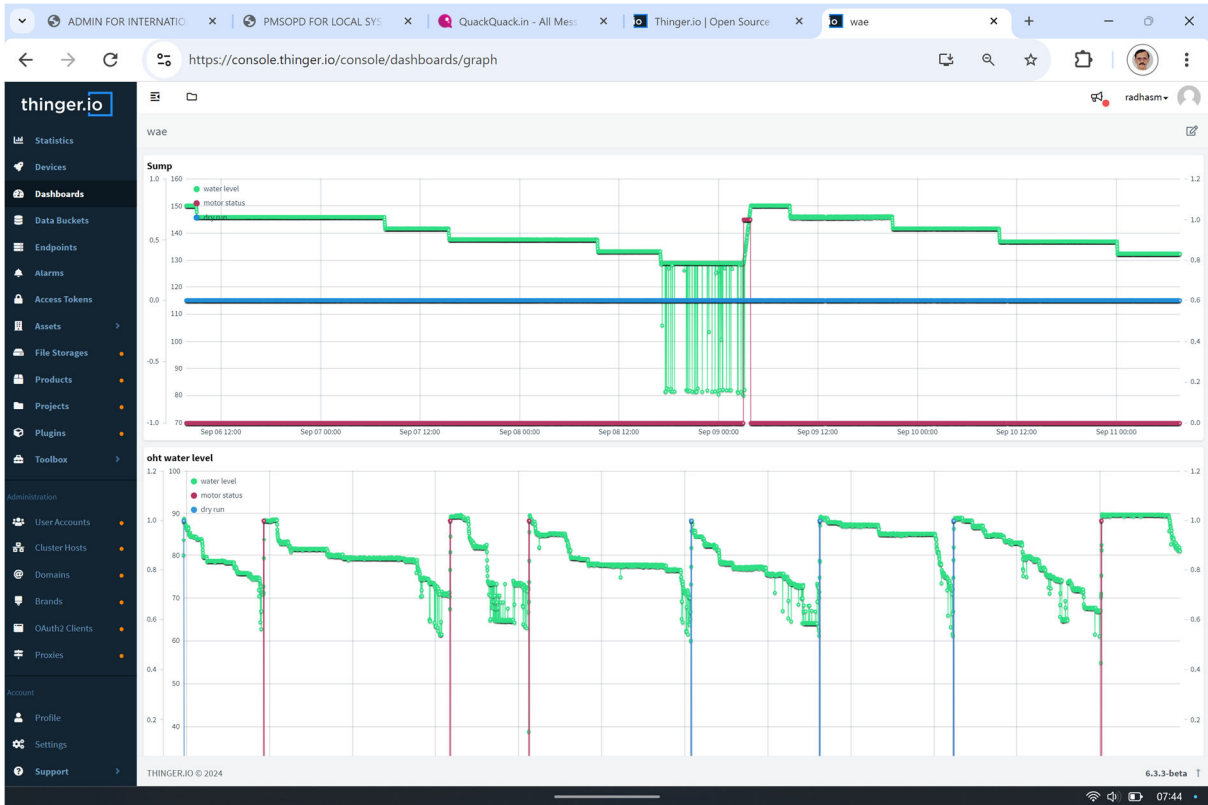
Implementation Steps:

1. **Integration of Waterproof Ultrasonic Sensors** for accurate water level detection.
2. **Connection to Relay Switches** to control pump operation.
3. **Programming:** Coded using the Arduino IDE, incorporating logic to manage water levels and pump status.
4. **Library Use:** The master Thinger library was utilized for cloud-based monitoring.
5. **Dashboard Setup:** Created using Thinger.io's dashboard to monitor real-time data and control systems.

Dashboard Screenshots:

(Screenshots showcasing key features of the water level monitoring dashboard)





nandanam water control

RED=ERR/LOW, BLUE=LOW YELLOW=MEDIUM , GREEN =FULL 1 s ⌚

81.35 x 10 liters. Over head tank

OHT SWITCH 	OHT RUNNING 1 s ⌚ 	OHT DRY RUN 1 s ⌚
SUMP SWITCH 	SUMP RUNNING Now ⌚ 	SUMP DRYRUNNING Now ⌚

RED ERR/LOW, BLUE = LOW ,YELLOW =MEDIUM , GREEN =FULL 2 s ⌚

132.46 x 40 liters SUMP LEVEL

Meter readding

2740682