Technology stack

ESP32 is a feature-rich System on a Chip with integrated LoRaWAN connectivity.

It is programmed using the Arduino programming language and the Arduino IDE (Integrated Developer Environment)
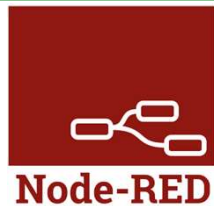
The sensor sends data wirelessly to a LoRaWAN Gateway, which forwards the data to the internet

Where it is collected by a LoRaWAN Network Server. In this case The Things Network.

THE THINGS NETWORK

The data on The Things Network can be accessed via MQTT, a machine to machine network protocol.
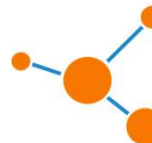
Node-RED

PROXMOX debian

Node-RED is a flow based editor for connecting hardware devices and online services. It is running on a virtual linux machine set up in Proxmox.

Home server

WP REST API

Node-RED can talk to the website via the WordPress REST API (Application Programming Interface). This means the data shown on the website can be updated automatically.

WORDPRESS

DigitalOcean

A WordPress website is hosted on DigitalOcean to display the sensor readings.