GENERIC IoT PLATFORM

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Mission statement:

To build an open source generic IoT platform for data visualization, analysis and actuation that can be used to develop featured applications.

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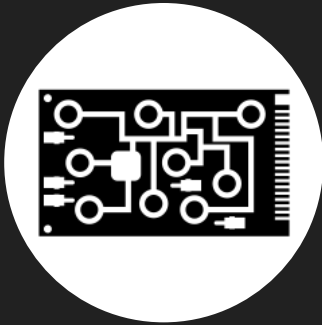
Nikitha Kondapalli
IIT, Kharagpur

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IIIT, Jabalpur

HOW IT WORKS

STEP 1

Set up the hardware

STEP 2

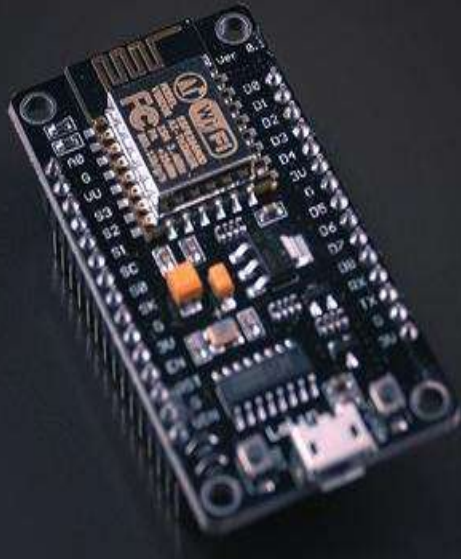**Establish WiFi and MQTT Connection**

STEP 3

Use the Dashboard on the WebApp
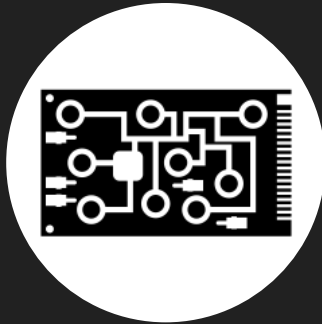
NodeMCU

Features of NodeMCU :
- Acting as WiFi access point (WiFiManager)
- Acting as a client (PubSub)

Programmed using ARDUINO IDE

HOW IT WORKS

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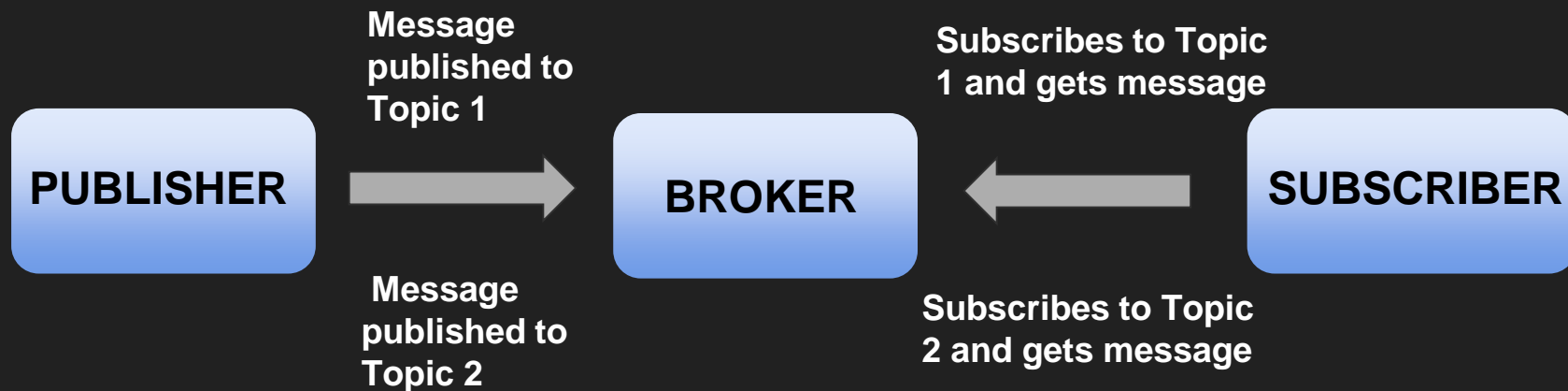
STEP 3

Use the Dashboard on the WebApp

MQTT - Message Queue Telemetry Transport

Created by Andy Stanford-Clark and Arlen Nipper in 1999.

Goals for creating MQTT

- Simple to implement
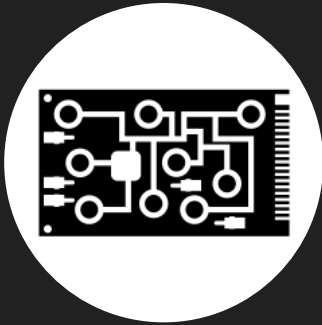
- QoS Data Delivery

- Lightweight and bandwidth efficient

MQTT - Message Queue Telemetry Transport

HOW IT WORKS

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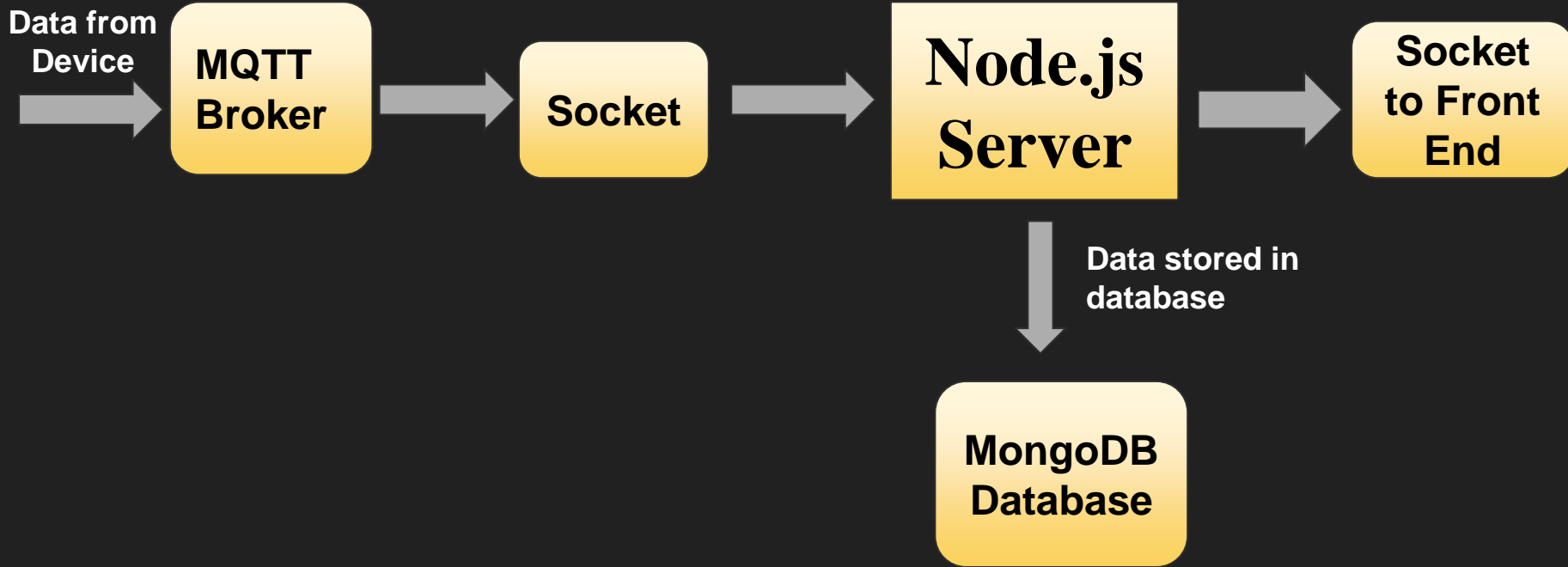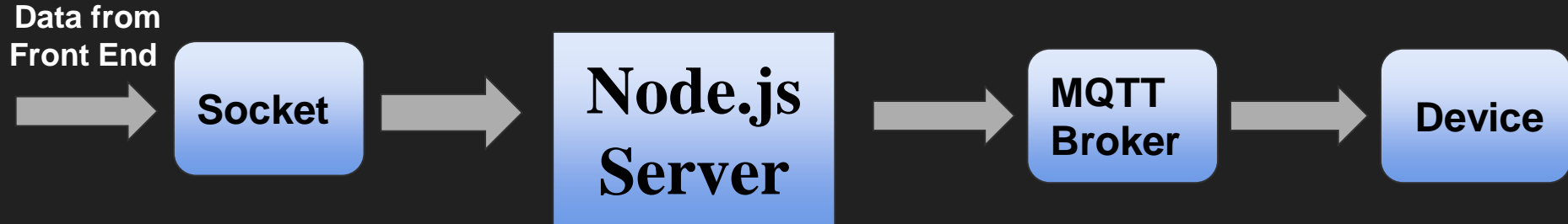**Establish WiFi and MQTT Connection**

STEP 3

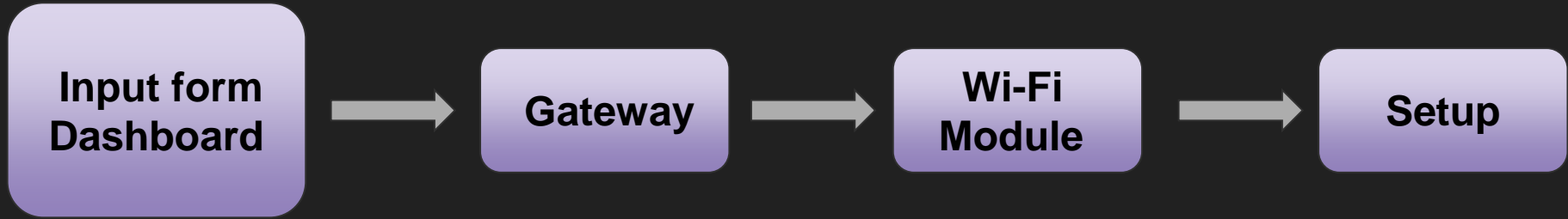**Use the Dashboard on the WebApp**

DEVICE TO PLATFORM COMMUNICATION

Data from Device → **MQTT Broker** → **Socket** → **Node.js Server** → **Socket to Front End**

Node.js Server → Data stored in database → **MongoDB Database**

PLATFORM TO DEVICE COMMUNICATION
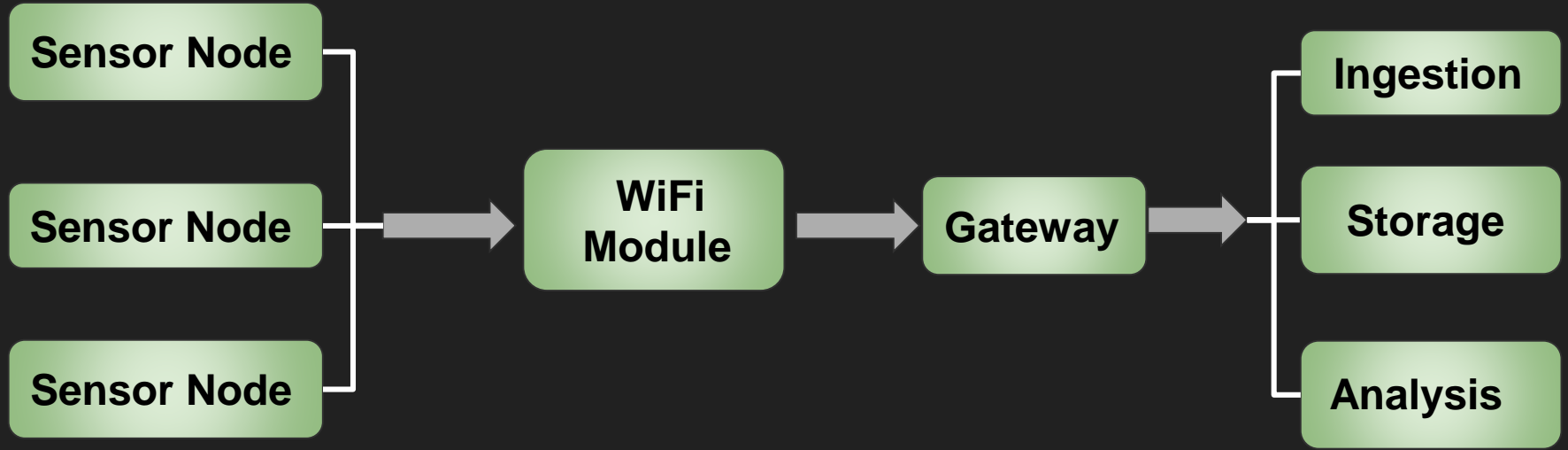
**Data from
Front End**

Socket → **Node.js Server** → **MQTT Broker** → **Device**

SENSORS FLOW DIAGRAM

ACTUATION

APPLICATION

SMART PLUG MODEL

THANK YOU!