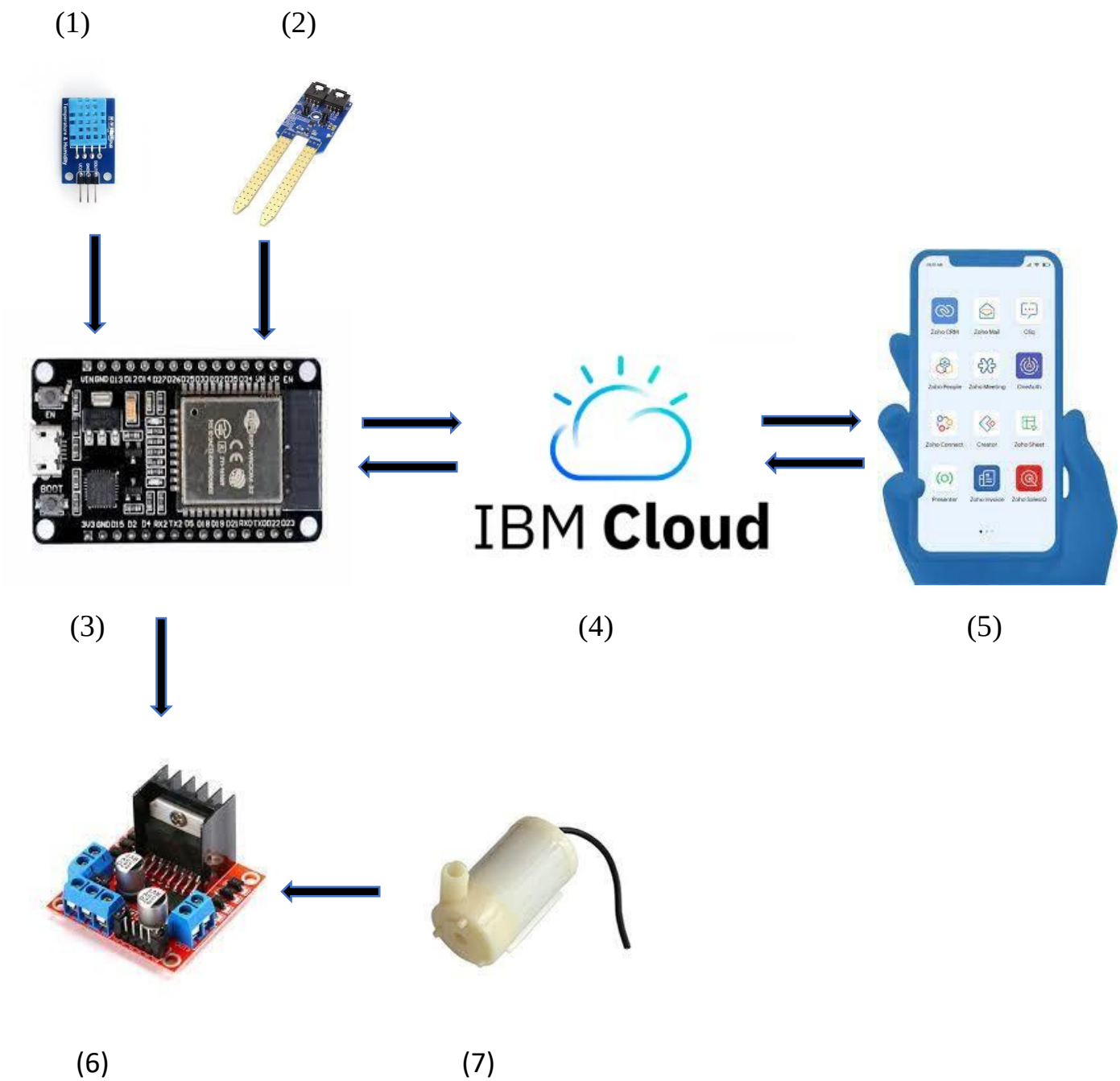
# DESIGN PHASE I

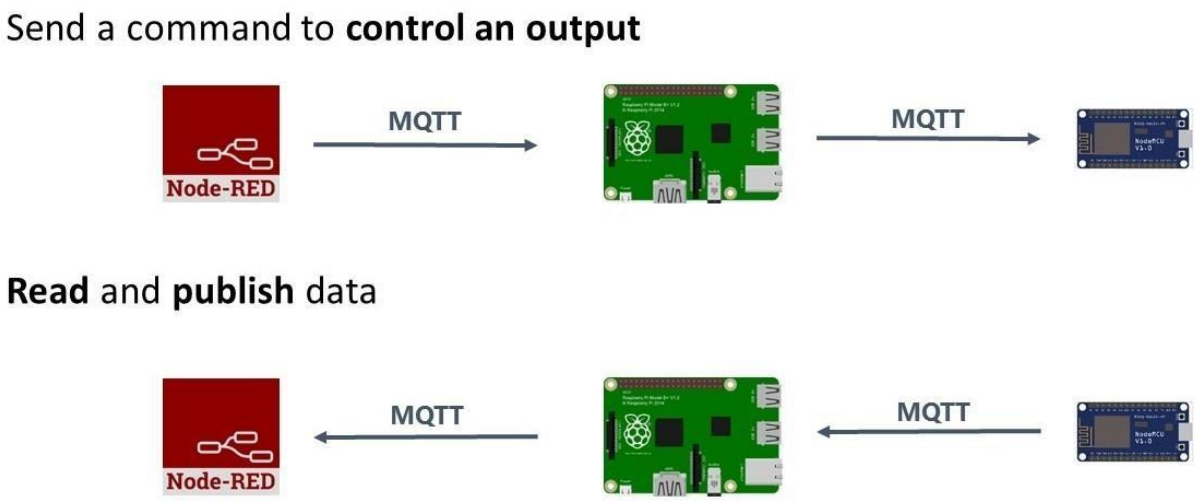
# SOLUTION ARCHITECTURE

**Project Title :** SmartFarmer - IoT Enabled Smart Farming Application

**Team Id :** PNT2022MID32489

## ARCHITECTURE DESIGN








**1 – Temperature and Humidity Sensor**

**2 – Soil Moisture Sensor**

**3 – Node MCU**

**4 – IBM Cloud**

**5 – Mobile App**

**6 – Motor L298N**

**7 – Motor Pump**

**8 – Node-Red & MQTT working**

**DESCRIPTION/+**

- The different soil parameters (temperature, humidity) are sensed using different sensors and the obtained value is stored in IBM cloud.
- The L298N is a Motor Driver IC which can control a set of two DC motors simultaneously in any direction.
- NodeMCU is used as a processing unit which processes the data obtained from sensors.
- Node-RED is a programming tool for wiring together hardware devices, APIs and online services in new and interesting ways. It provides a browser-based editor.
- All the collected data are provided to the user through a mobile application which was developed using MIT app inventor.
- The user could make decision through an app, whether to water the crop or not, depending upon the sensor values.