Write a code to generate a ultrasonic sensor in the cloud IBM.

Procedure:

Ultrasonic Sensor HC-SR04 is a sensor that can measure **distance**. It emits an **ultrasound**at **40 000 Hz (40kHz)** which travels through the air and if there is an object or obstacle on its path It will bounce back to the module. Considering the travel time and the speed of the sound you can calculate the distance.

The configuration pin of HC-SR04 is VCC (1), TRIG (2), ECHO (3), and GND (4). The **supply voltage** of VCC is **+5V** and you can attach TRIG and ECHO pin to any Digital I/O in your Arduino Board.

Program:

int trigPin = 9; // TRIG pin

int echoPin = 8; // ECHO pin

float duration\_us, distance\_cm;

void setup() {

// begin serial port

**Serial**.begin (9600);

// configure the trigger pin to output mode

pinMode(trigPin, OUTPUT);

// configure the echo pin to input mode

pinMode(echoPin, INPUT);

}

void loop() {

// generate 10-microsecond pulse to TRIG pin

digitalWrite(trigPin, HIGH);

delayMicroseconds(10);

digitalWrite(trigPin, LOW);

// measure duration of pulse from ECHO pin

duration\_us = pulseIn(echoPin, HIGH);

// calculate the distance

distance\_cm = 0.017 \* duration\_us;

// print the value to Serial Monitor

**Serial**.print("distance: ");

**Serial**.print(distance\_cm);

**Serial**.println(" cm");

delay(500);

}

Send

Output:

distance: 29.4 cm

distance: 27.6 cm

distance: 26.9 cm

distance: 17.4 cm

distance: 16.9 cm

distance: 14.3 cm

distance: 15.6 cm

distance: 13.1 cm

Block circuit diagram:

