
Home Challenge #2

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1 Thing Speak

The ThingSpeak channel used for the challenges is: [ThingSpeak Channel](#)

2 NODE-RED

The Node-red application could be divided into three parts:

- **PARSING DATA:** the data are read from the CSV file and using a function block they are then formatted.^[1]
- **ELABORATING DATA:** here only the publish messages are taken into consideration and the correct field is attached to every data.
- **PUBLISHING RESULTS:** the MQTT message is created and then published^[2].

3 Results

Running the Node-red application on the given CSV file, I got 49 results which are divided as follows:

- 20 for topic `factory/department1/section1/plc`
- 0 for topic `factory/department3/section3/plc`
- 13 for topic `factory/department1/section1/hydraulic_valve`
- 16 for topic `factory/department3/section3/hydraulic_valve`

The results grouped by field are the following:

- **Field 1:** 4,403,21,66,66,66,764,32,32,36,36,5,66,1747,4,31,764,14,2010,1380
- **Field 2:** 2,1344,14,638,14,1344,60,11,559,30,42,20,3162,14,195,2,14,14,14,3162,3162,1,1,39,14,1344,1344,3162,39

4 CSV Assumptions

The only assumption made is that the hex value at the end of every line appear in the same order of the publish message.

^[1]The provided CSV Node of NODE-RED is not used because the provided file is not well formatted.

^[2]The messages rate is 1 message/minute to avoid any problem with ThingSpeak