

Creating a dashboard on Thingspeak for IoT

Door : Tom van Loon

This is a instruction for displaying data through Node-red on a Thingspeak dashboard.

I encourage you to watch this video first :

<https://www.youtube.com/watch?v=3AR432bguOY&t=4s>

There are five steps ;

- Setting up a Thingspeak account
- Install an **INJECT** gate
- Install a **FUNCTION** gate
- Install a **HTTP** request gate
- Home work

Setting up a Thingspeak account

Open a notepad to copy your user data
[Dos promd and enter notepad]

Go to Thingspeak.com
Press **Sign up** on the right side
Enter your Email Address
[letters and number only for User ID]

Enter your **User ID** { example : TTNuserX }
Think up a Password and **copy** it to the notepad
Enter the other fields
Press **Continue**

Go to your Outlook program and check for new mail
Press **Verify your email**
A MathWorks page opens and should show a green message
[Thingspeak is part of the Mathworks platform]

Go back to the Thingspeak site
Press **Sign In**
Enter your email address
Press **Next**
Enter your password
Press **Login**

A green message is displayed
Press **OK**
Press **Agree to Terms**

We are now ready to create a new channel
[A channel is like an App in the TTN console]

Press **New channel**
Enter the **Name** { example : TTNpanel }
Enter the **Description** [Not necessary]
Enter the first **Field** with a property of your Node
Press Save **channel** on the bottem

*The **User ID** { TTNuserX } is viewed as the **author***
Copy [CTRL C] the { TTNuserX } to your notepad

Sign up for ThingSpeak

The ThingSpeak service is operated by MathWorks. In order to sign up for Th

Create MathWorks Account

Email Address

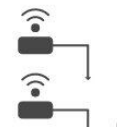
Missing required information

i To access your organization's MATLAB license, use your school or work email.

User ID

Password

Netherlands



Sign-up successful

Congratulations, you have successfully linked your MathWorks account to ThingSpeak. subsequent logins to ThingSpeak.



My Channels

[New Channel](#)

Name	Created	Updated At



Log out of your account
Log in again

Go to **Channels**
Go to **My Channels**
Click on **TTNpanel**

Go to **API key**

Look at **API request**

[**Write API Key**: Use this key to write data to a channel with a request]

Select the **HTTP** adres { **API write** } and copy it
Open the notepad and paste [CTRL V]

This is the end of the first chapter



API Requests

Update a Channel Feed

```
GET https://api.thingspeak.com/update?api_key=0Wk980E9S2C7 &field1
```

[letters

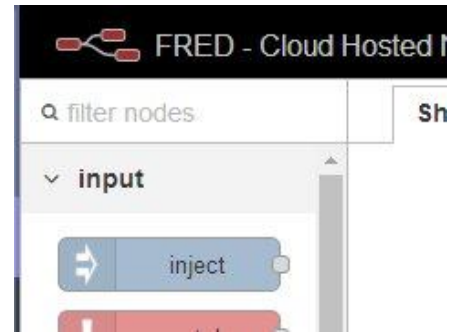
[letters



Install an Inject gate

Start a Node-red session

Select an **Inject** icon from the left and drag it to the main area



Double click on the icon
A new panel is opened

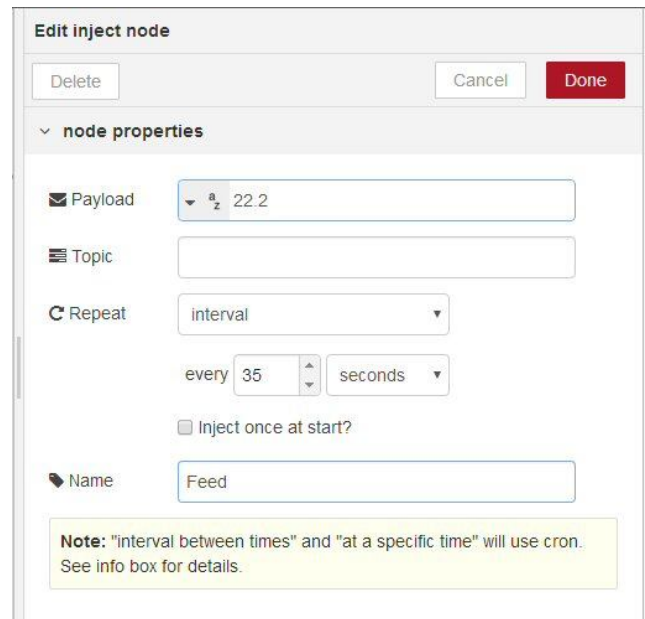
Open the **Payload** pointer and select string

Enter a value in the first **Payload** field

You may change the **Repeat** tab to an interval
You may change the Name of the gate

[Feed is a reference to a input gate, IBM calls them *nodes*]

Select **Done** to confirm these settings



The result may look like this sprite



This is the end of the second chapter

Description :

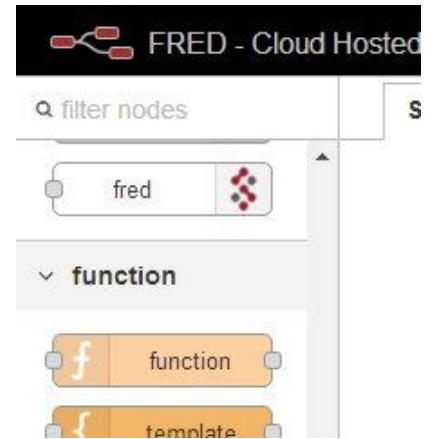
The Inject node can initiates a flow with a specific payload value. The message payload can be a variety of types, including strings, JavaScript objects or the current time.



Install an Function gate

Scroll down the list of icons on the left side

Select an **Function** icon and drag it to main area



Double click on the new gate

```
1 msg.url = "https://api.thingspeak.com/update?api_key=0WK980E9S2CZXXX&field1="+  
  msg.payload.feed1;  
2 return msg;
```

Enter the following text in the function field

But replace the HTTP **adres** with the { **API write** } from your notepad

You may change the name of the gate to describe it

Press **Done** to confirm these settings



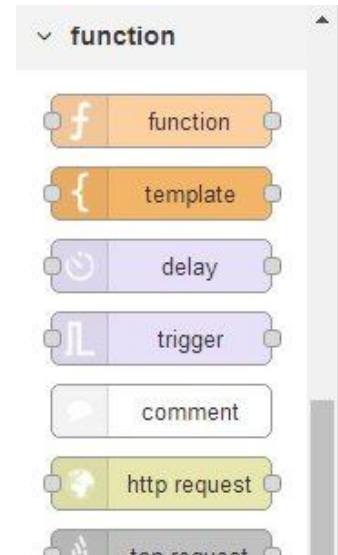
Description :

The function is expected to return a message object (or multiple message objects), but can choose to return nothing in order to halt a flow.

Install an HTTP request gate

Scroll down the list of icons

Select a **HTTP request** gate and drag it to the centre



Double click on the gate

Change the **Method** to post

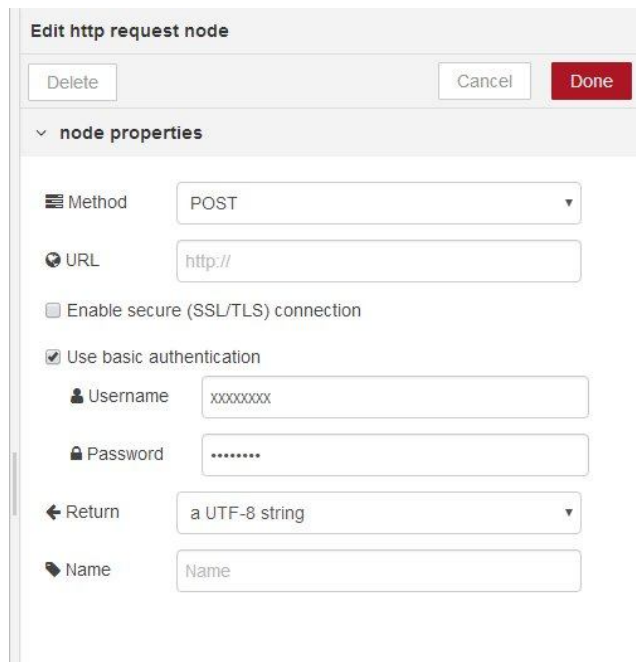
Select **basic** authentication

Copy the username { TTNuserX } from your note

Copy your Thingspeak Password from your note

Select **Done** to confirm your settings

Connect the **three gates** with a wire



Select **Deploy / Full** on the right site to test your flow

You can add a **Debug** node to test the outputs

Open the **Debug** tab on the right site

Wait until 6 messages are displayed

Go back to chrome and your **Thingspeak** account

Details :

When configured within the node, the URL property can contain mustache-style tags. These allow the url to be constructed using values of the incoming message.



Home work

- *Try to install a TTN package for using Node red with the TTN and use it in Node-red*
- Go the things network
- Click on learn
- Click on application
- Click on [Node-RED](#) in the main text
- Click on [Node-RED node for TTN](#)
- *Restart your Node-RED*

Deviations

- The standard version of Node-red on Raspberry Pi does not include a complete version of NPM / Palette manager.. so i encourage you to use the online Fred version.
- The latest version of Node JS needs a 64 bits OS like Windows 7

References :

<https://www.youtube.com/watch?v=WxUTYzxIDns&t=1022s>

<https://fred.sensetecnic.com/>

<https://www.youtube.com/watch?v=3AR432bguOY&t=4s>

<https://nodered.org/docs/getting-started/installation>

<https://github.com/TheThingsNetwork/nodered-app-node>

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CREDITS



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1 project • 1 follower

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Thanks to [Justin Cooper](#), [Todd Treece](#), [Tony DiCola](#), and [Alex Bucknall](#).