

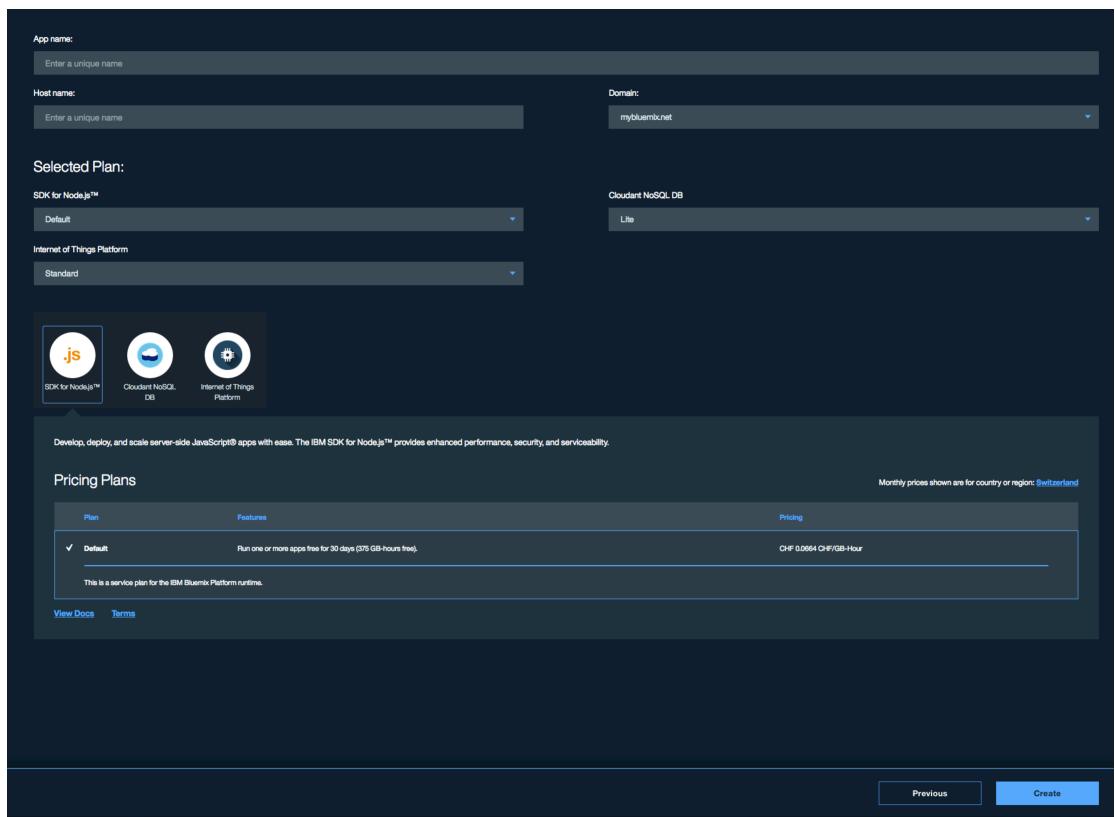
## Exercise 1: Deploy and use the TestDataCreator

In this assignment you will

- Create a test data generator using Node-RED
- Publishing data to the Watson IoT platform
- Implement a flow to subscribe to this data and store it in a NoSQL database

### Step 1: Create a Node-RED instance in Bluemix

- Register for a free Bluemix account: <http://ibm.biz/joinIBMCLOUD>
- Create a node-red instance using this boilerplate: <https://new-console.ng.bluemix.net/catalog/starters/internet-of-things-platform-starter/>
  - Enter a unique name
  - Click on create



### Step 2: Create the test data creator

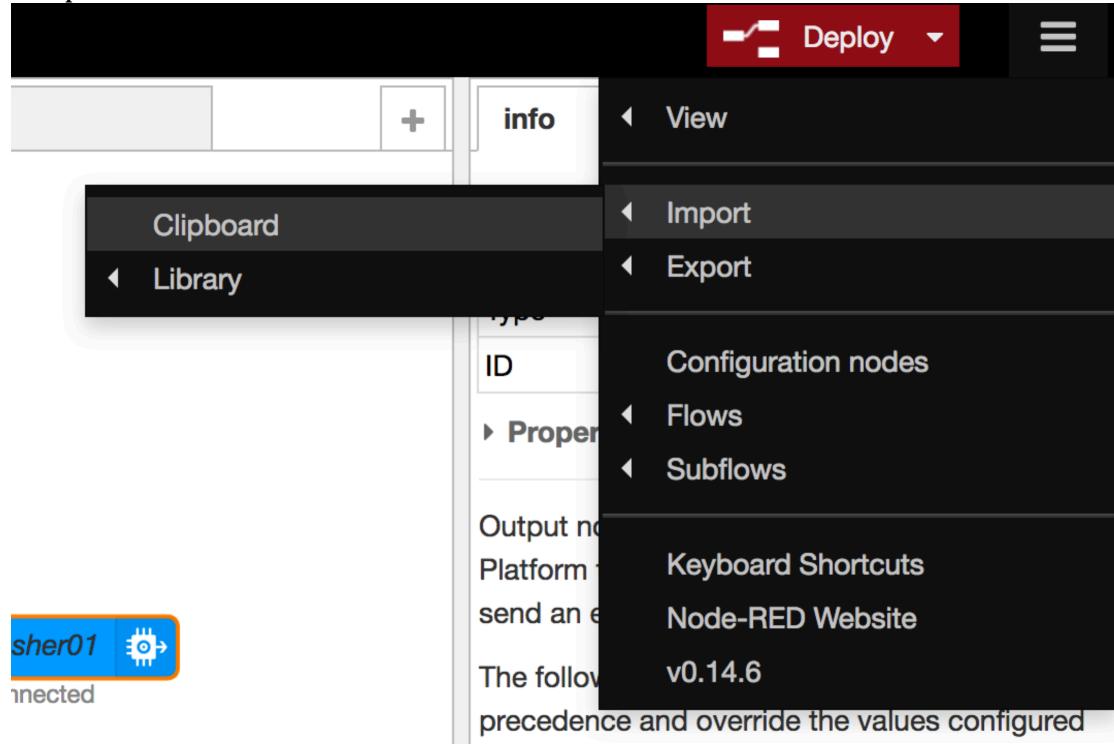
Import a flow from flow1.json to NodeRED:

- Download the following file and paste it's contents to the clipboard (e.g. using a text editor, you can also select the contents directly in the browser

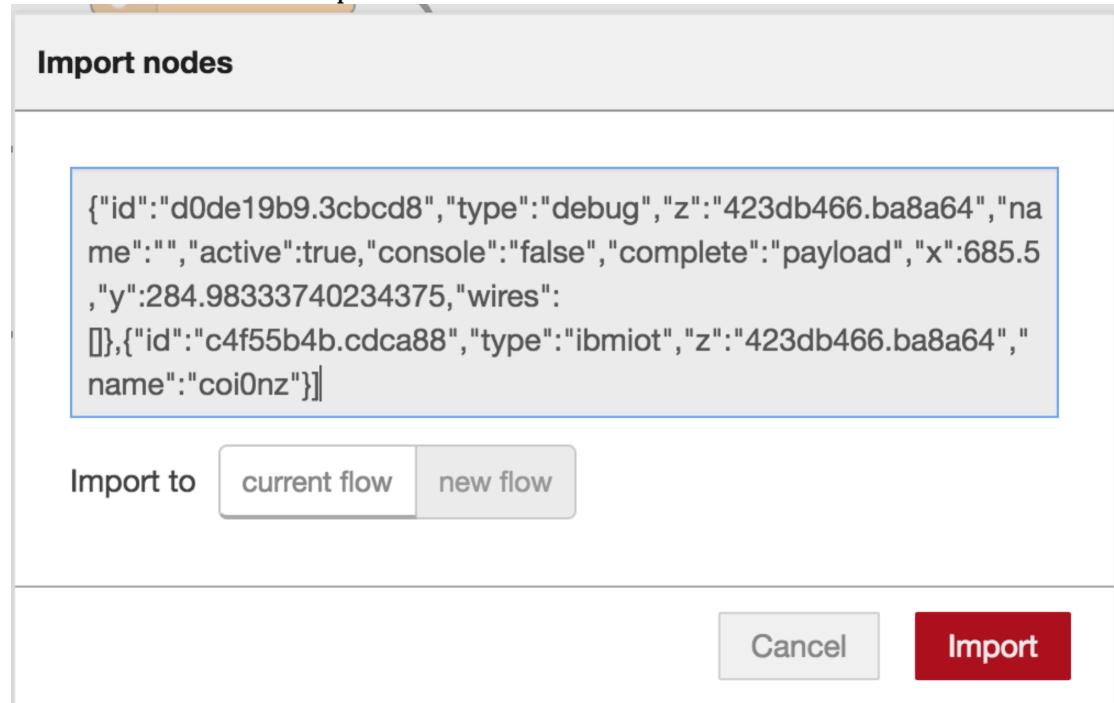
and copy):

[https://raw.githubusercontent.com/romeokienzler/developerWorks/master/coursera/a0\\_m2\\_flow1.json](https://raw.githubusercontent.com/romeokienzler/developerWorks/master/coursera/a0_m2_flow1.json)

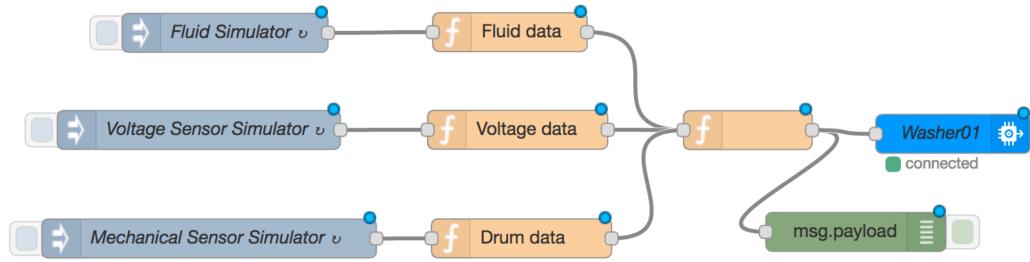
- Now click on the top right menu button of NodeRED and select Import->Clipboard



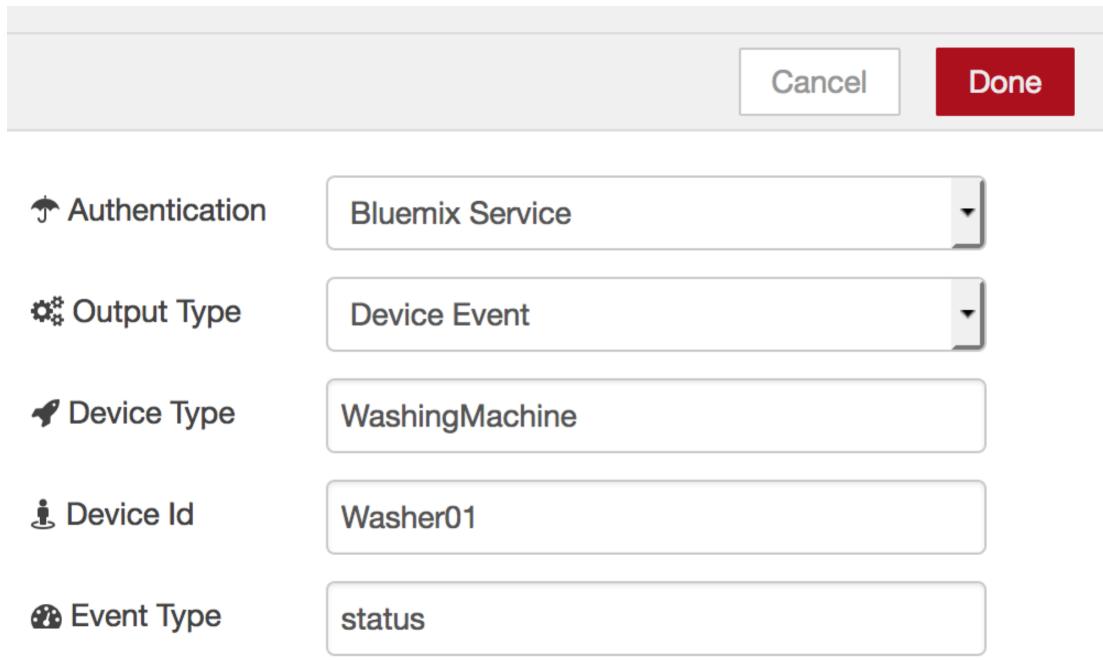
- Paste the contents of the file you've previously downloaded into the textarea and click on import



- Drag the appearing flow to the panel and click



- Double-Click on Washer01 and ensure that “Bluemix Service” is selected as authentication method:

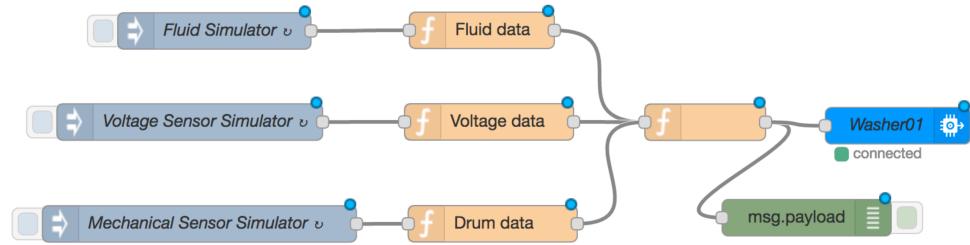


Click on “deploy”, now the test data generator sends data from a hypothetical washing machine to the IBM Watson IoT Platform. It also generates some anomalies, which we can analyze later.

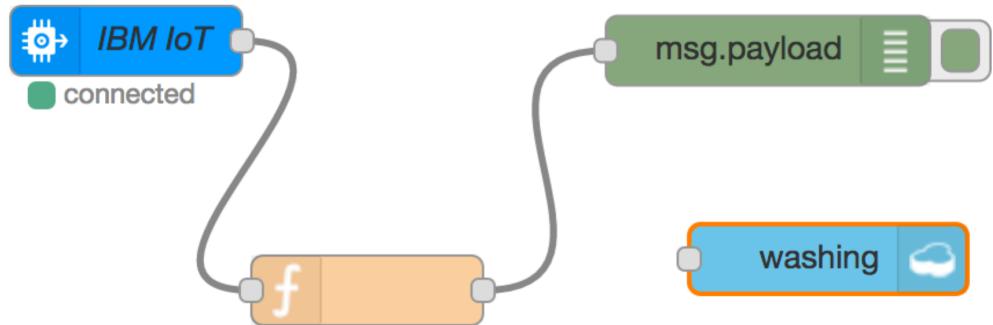
### Step 3: Stream the data to the Apache CouchDB (Cloudant) NoSQL database.

Now we want to subscribe to these data using a IBM Watson IoT Platform Input node, transform it a bit and store it in Apache CouchDB

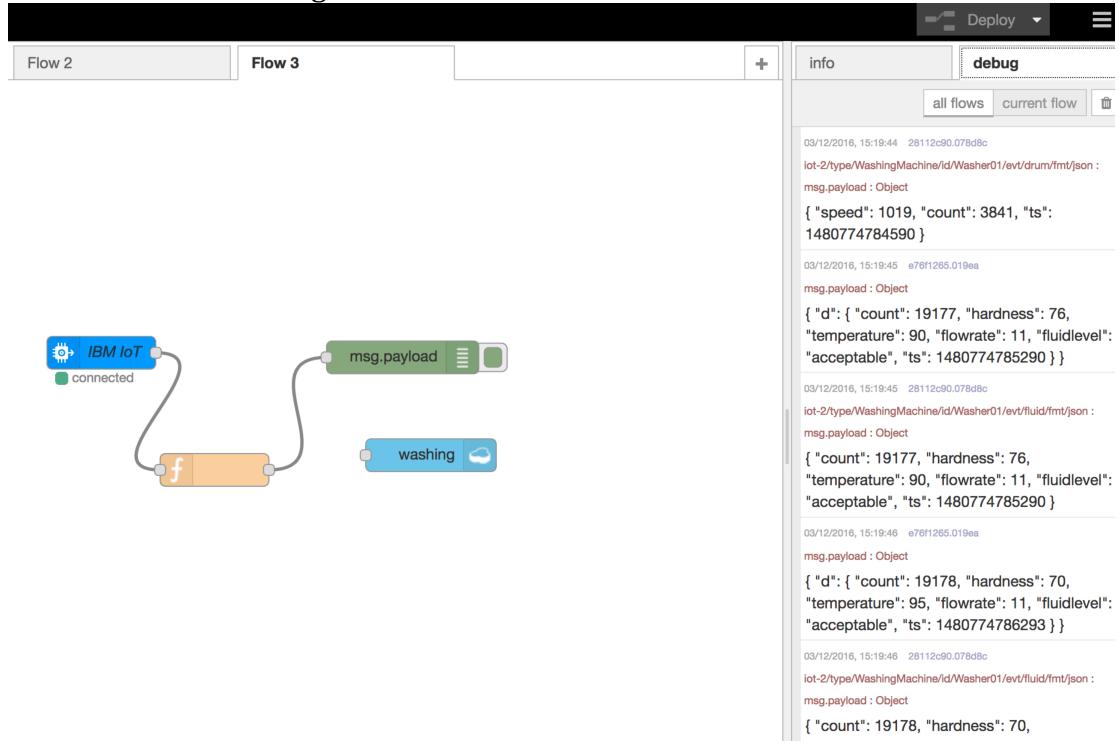
- Click on the “+” symbol top right



- Again import a flow to the new panel as described in the previous section, but now use this file:  
[https://raw.githubusercontent.com/romeokienzler/developerWorks/master/coursera/a0\\_m2\\_flow2.json](https://raw.githubusercontent.com/romeokienzler/developerWorks/master/coursera/a0_m2_flow2.json)
- You should see a flow like this:



- Click on the red deploy button top right, and then on the debug tab, you should see data coming in like this:

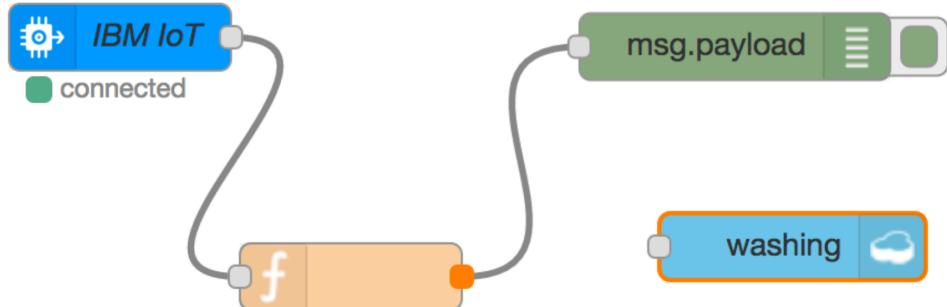


- Double-click on the washing node and make sure that the database name you are storing data to is “washing”:

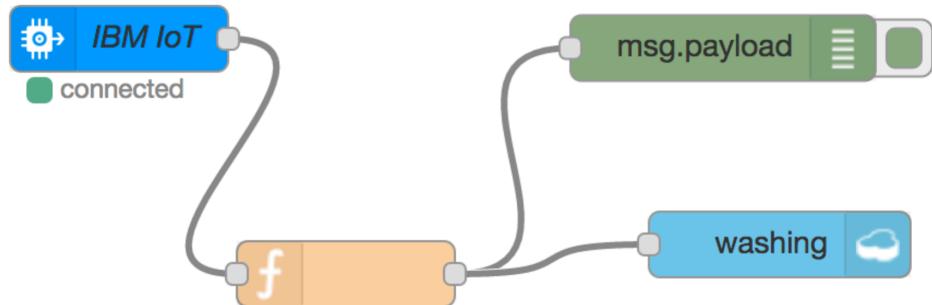
The screenshot shows the 'Edit cloudant out node' dialog box. It has a title bar with 'Edit cloudant out node' and buttons for 'Cancel' and 'Done'. The main area contains four dropdown menus and one checkbox:

- Service:** deletemerkie-cloudantNoSQLDB
- Database:** washing
- Operation:** insert
- Only store msg.payload object?** (checkbox checked)
- Name:** Name

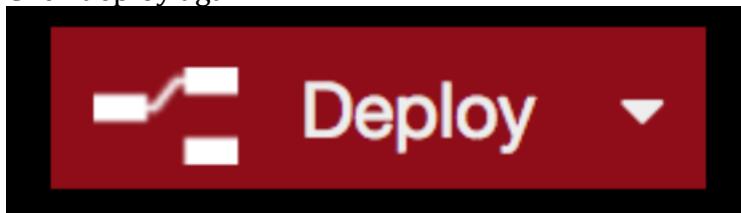
- Click on done. We are actually not storing data because there is a connection missing, let's create it:



- Click on the little orange bubble and drag a connection to the grey input bubble at the washing node:



- Click deploy again



- Now we are streaming data into ApacheCouchDB  
Wait for around 5 minutes, remove the connection you've created and click on "deploy" again, so we are done creating a test data set

Please check if the data arrives in the database as described in the video "Overview of end-to-end scenario" of week 2 starting from 5:25