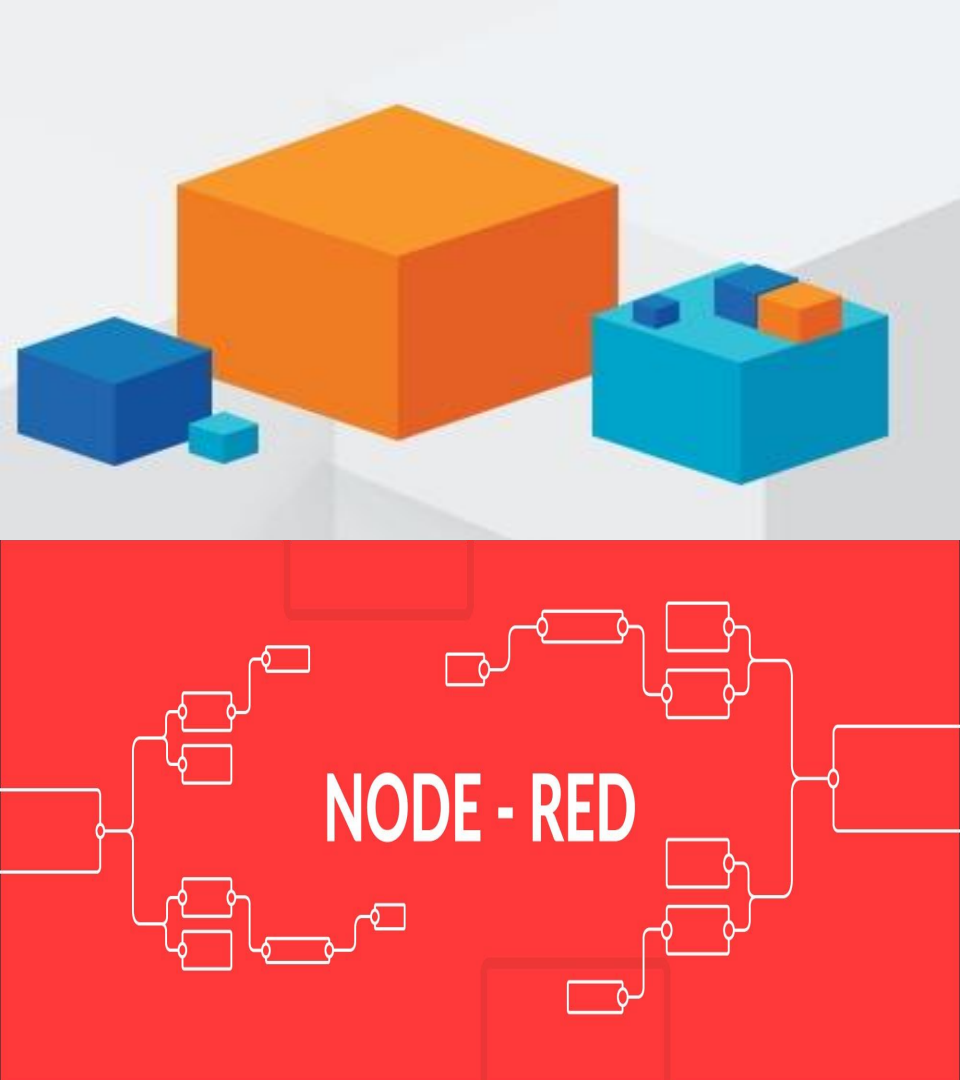


Drag Drop Deploy

SMART DEVICES DO NEED TO TALK TO SERVERS LYING ON SOME CLOUD. THIS TALK WILL INCLUDE BASIC KNOWLEDGE OF NODE-RED FRAMEWORK OF NODEJS, ANY DEVELOPER CAN COMMUNICATE TO DEVICES (PUBLISH/SUBSCRIBE) USING MQTT PROTOCOL AND THEY CAN DEVELOP ANY REST APIS USING **HTTP** FEATURE OF **NODE-RED**.

NODE-RED IS DRAG AND DROP, LIGHT WEIGHT FRAMEWORK BUILT UPON NODEJS. NOW, DEVELOPER CAN DEVELOP A API IN LESSER TIME THAT HE/SHE TAKES TO MAKE A CUP OF COFFEE.





0 - Who has developed Node-RED





IBM Bluemix™



Node-RED was developed by IBM as a tool thought specifically for the internet of things, and from 2016 it is an open-source JS Foundation project, released with the Apache License 2.0

It is also available on the IBM Bluemix Cloud Platform as a Service

The classic IBM logo, consisting of the letters "IBM" in a bold, blue, sans-serif font, with each letter composed of horizontal stripes.

1 - What is Node-RED

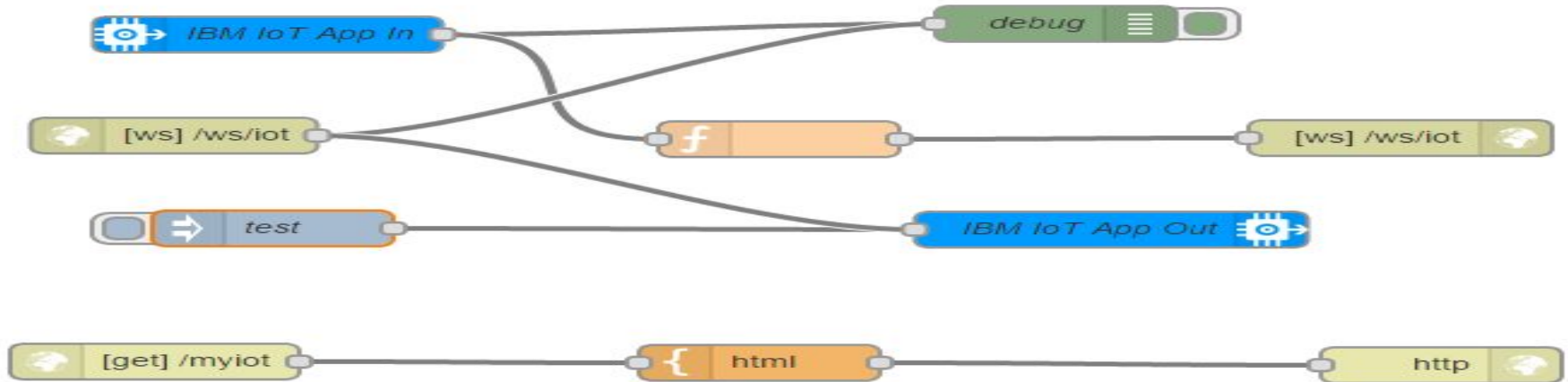
NODE-RED IS VISUAL TOOL THAT:

- 1 – WIRES HARDWARE DEVICES, APIS AND ONLINE SERVICES AS PART OF INTERNET OF THINGS
- 2 – PROVIDES A BROWSER BASED FLOW EDITOR
- 3 – IT IS BUILT ON NODE.JS
- 4 – HIS FLOWS ARE STORED AS JSON

A Step Back : DataFlow Programming

EACH BLOCK REPRESENT A SERVICE THAT WE CAN WIRE SIMPLY EXTENDING THE WIDE RANGE NODES IN THE PALETTE

- THE RESULT IS A FLOW OF DATA BETWEEN EACH NODE



2- Why use Node - RED ?

Node-RED

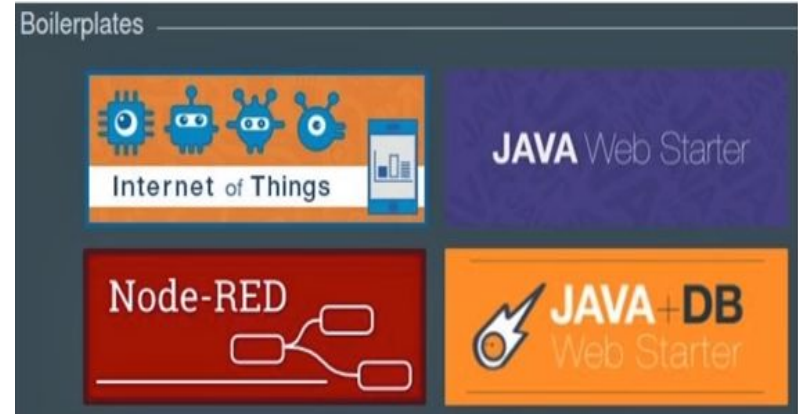


Advantages of Node-RED

- a) Node Red is open source, can run on **low cost hardware**, as well as cloud
- b) To run Node-Red we need **only node.js and npm** installed
- c) Node-Red can easily be run on a **Compatible Platform As A Service**
- d) It's based on Node.js, **light-weight** runtime based on event-driven non-blocking model
- e) Has yet **225,000 modules**, and it is easy to add new capabilities
- f) His flows are stored as **JSON**, so it is **language independent**
- g) Its **Plugin Independent** unlike Jenkins

h) When Integrated with BlueMix, it provides ready made application templates for different purposes to **speed up development**. IOT is one of the boilerplates containing Node-red, IOT and time series database already installed

Node-RED in Bluemix



Node Red Nodes for AWS

Node-RED Library

[Add a flow](#)

Find new nodes, share your flows and see what other people have done with Node-RED.

☐ flows ☒ nodes

6 of 928 things

node-red-contrib-amazon-ses

NodeRED node to send email via the Amazon SES Service

node

node-red-contrib-aws-sdk

The aws sdk wrapper node which allows you to execute aws functions in javascript block.

node

node-red-node-aws

A Node-RED node to watch, save and retrieve files from an Amazon S3 bucket



node

node-red-contrib-aws-ses

Node-RED nodes for receive email via Amazon Simple Email Service (AWS SES).

node

node-red-contrib-dynamodb-scan

A Node-RED node to read from Amazon DynamoDB

node

node-red-node-ddb

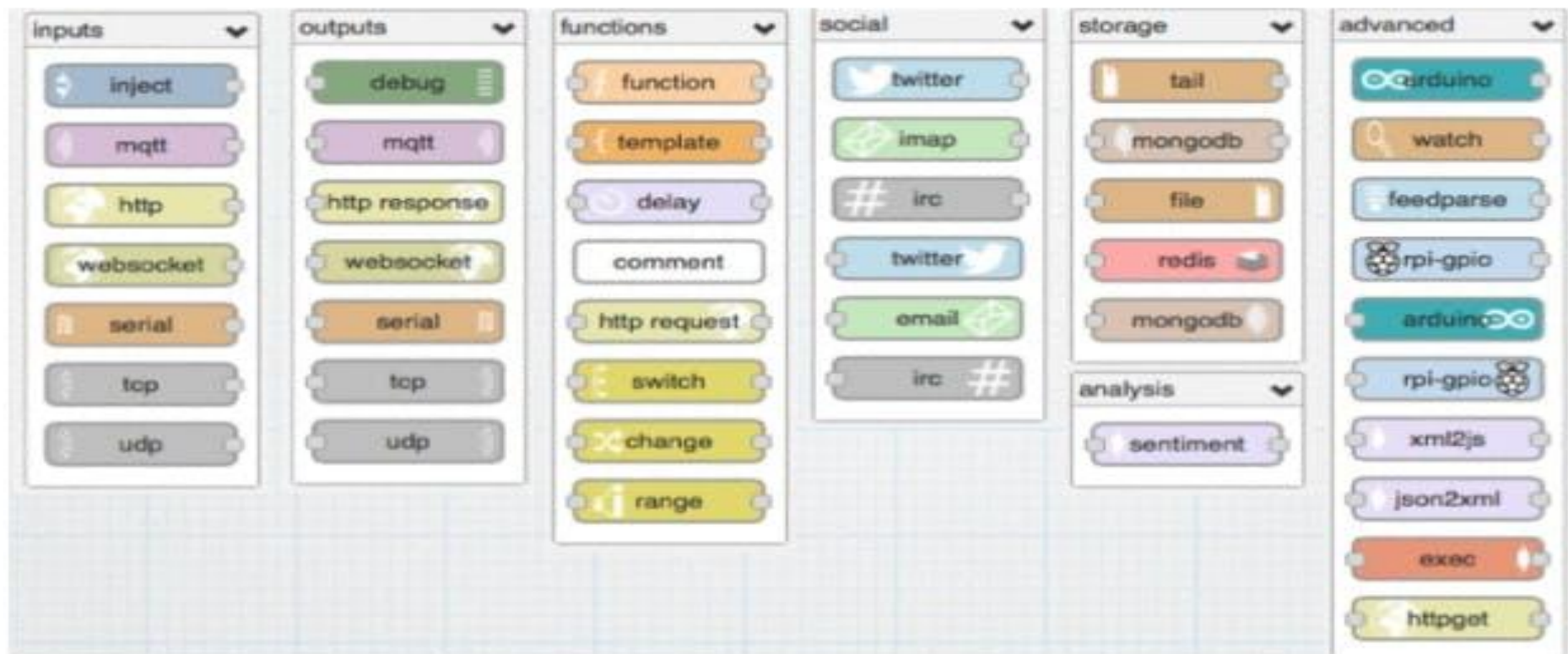
A Node-RED node to store in Amazon DynamoDB

node

4- Coding with Node-RED

- EVERY BLOCK REPRESENTS A SPECIFIC OPERATION:
- THE BLOCKS ARE DIVIDED BY CATEGORY AND CAN BE WIRED USING THE FLOW EDITOR
- NODES REPRESENT REUSABLE PIECES OF CODE AND LOGIC. NODE RED COMES WITH CORE SET OF USEFUL NODES .THERE ARE GROWING AMOUNT OF ADDITIONAL NODES FROM NODE-RED PROJECT AS WELL AS WIDER COMMUNITY AND WE CAN PROGRAM OUR OWN NODES USING JAVA SCRIPT

Nodes



5 -Node Red Flow and Demo Time !