

Build a Web application using Node-Red service

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Project Title	Smart Farmer – IoT Enabled Smart Farming Application

The screenshot displays the Node-RED web interface in a browser. The top navigation bar includes tabs for 'Application Details - IBM Cloud', 'Node-RED : node-red-tvnss-202', 'Node-RED Dashboard', and 'IBM Watson IoT Platform'. The address bar shows the URL: `node-red-tvnss-2022-11-16.eu-gb.mybluemix.net/red/#flow/e0b94dd1dde366ad`. The main workspace shows a flow named 'Flow 1' with the following components:

- Input:** An 'IBM IoT' node (blue) with a 'connected' status.
- Processing:** Three parallel function nodes (orange) labeled 'temp', 'hum', and 'moisture'.
- Output:** A 'msg.payload' node (green) that receives data from the function nodes.

The left sidebar contains a 'filter nodes' search bar and two categories of nodes: 'function' (including function, switch, change, range, template, delay, trigger, filter, and OpenWhisk) and 'network'.

The right sidebar shows a 'debug' console with the following log entries:

```
11/18/2022, 3:29:04 PM node: ce4cf0b9c0bcd4f1  
iot-2/type/TemperatureId/123456/ev/IoTSensor/fmt/json  
: msg.payload : number  
90  
  
11/18/2022, 3:29:04 PM node: ce4cf0b9c0bcd4f1  
iot-2/type/TemperatureId/123456/ev/IoTSensor/fmt/json  
: msg.payload : undefined  
undefined  
  
11/18/2022, 3:29:04 PM node: ce4cf0b9c0bcd4f1  
iot-2/type/TemperatureId/123456/ev/IoTSensor/fmt/json  
: msg.payload : undefined  
undefined  
  
11/18/2022, 3:29:14 PM node: ce4cf0b9c0bcd4f1  
iot-2/type/TemperatureId/123456/ev/IoTSensor/fmt/json  
: msg.payload : Object  
{ temp: 101, Humid: 84 }  
  
11/18/2022, 3:29:15 PM node: ce4cf0b9c0bcd4f1  
iot-2/type/TemperatureId/123456/ev/IoTSensor/fmt/json  
: msg.payload : number  
101
```

Application Details - IBM Cloud x Node-RED : node-red-tvnss-202 x IBM Watson IoT Platform x +

node-red-tvnss-2022-11-16.eu-gb.mybluemix.net/red/#flow/e0b94dd1dde366ad

Node-RED

filter nodes

network

- mqtt in
- mqtt out
- http in
- http response
- http request
- websocket in
- websocket out
- tcp in
- tcp out
- tcp request
- udp in

Flow 1

IBM IoT (connected)

temp

hum

moisture

msg payload

temp

hum

moisture

info

Search flows

- Flows
 - Flow 1
 - Flow 2
- Subflows
- Global Configuration Nodes

Flow 1

Flow "e0b94dd1dde366ad"

Hold down **ctrl** when you **click** on a node port to enable quick-wiring

Node-RED_node...html

Type here to search

19:11 18-11-2022

Application Details - IBM Cloud x Node-RED : node-red-tvnss-202 x IBM Watson IoT Platform x +

node-red-tvnss-2022-11-16.eu-gb.mybluemix.net/red/#flow/e0b94dd1dde366ad

Node-RED

filter nodes

network

- mqtt in
- mqtt out
- http in
- http response
- http request
- websocket in
- websocket out
- tcp in
- tcp out
- tcp request
- udp in

Flow 1

IBM IoT (connected)

temp

hum

msg payload

temp

hum

debug

all nodes

11/18/2022, 7:13:01 PM node: ce4cd0b9c0bcd4f1
iot-2/type/Temperature/id/123456/ev/IoTSensor/fmt/json
: msg.payload : Object
{ temp: 96, HumId: 93 }

11/18/2022, 7:13:01 PM node: ce4cd0b9c0bcd4f1
iot-2/type/Temperature/id/123456/ev/IoTSensor/fmt/json
: msg.payload : number
96

11/18/2022, 7:13:01 PM node: ce4cd0b9c0bcd4f1
iot-2/type/Temperature/id/123456/ev/IoTSensor/fmt/json
: msg.payload : number
93

Node-RED_node...html

Type here to search

19:13 18-11-2022

Application Details - IBM Cloud x Node-RED: node-red-tvns-202 x IBM Watson IoT Platform

Python 3.7.0 Shell

```

File Edit Shell Debug Options Window Help
Published Temperature = 110 C Humidity = 63 % to IBM Watson
Published Temperature = 95 C Humidity = 87 % to IBM Watson
Published Temperature = 94 C Humidity = 79 % to IBM Watson
Published Temperature = 91 C Humidity = 89 % to IBM Watson
Published Temperature = 99 C Humidity = 89 % to IBM Watson
Published Temperature = 104 C Humidity = 80 % to IBM Watson
Published Temperature = 108 C Humidity = 76 % to IBM Watson
Published Temperature = 99 C Humidity = 95 % to IBM Watson
Published Temperature = 102 C Humidity = 83 % to IBM Watson
Published Temperature = 104 C Humidity = 88 % to IBM Watson
Published Temperature = 103 C Humidity = 95 % to IBM Watson
Published Temperature = 107 C Humidity = 89 % to IBM Watson
Published Temperature = 105 C Humidity = 95 % to IBM Watson
Published Temperature = 91 C Humidity = 64 % to IBM Watson
Published Temperature = 109 C Humidity = 75 % to IBM Watson
Published Temperature = 102 C Humidity = 66 % to IBM Watson
Published Temperature = 107 C Humidity = 93 % to IBM Watson
Published Temperature = 106 C Humidity = 80 % to IBM Watson
Published Temperature = 91 C Humidity = 69 % to IBM Watson
Published Temperature = 105 C Humidity = 60 % to IBM Watson
Published Temperature = 104 C Humidity = 63 % to IBM Watson
Published Temperature = 105 C Humidity = 69 % to IBM Watson
Published Temperature = 108 C Humidity = 89 % to IBM Watson
Published Temperature = 93 C Humidity = 95 % to IBM Watson
Published Temperature = 98 C Humidity = 70 % to IBM Watson
Published Temperature = 92 C Humidity = 95 % to IBM Watson
Published Temperature = 110 C Humidity = 99 % to IBM Watson
Published Temperature = 105 C Humidity = 98 % to IBM Watson
Published Temperature = 100 C Humidity = 85 % to IBM Watson
Published Temperature = 104 C Humidity = 98 % to IBM Watson
Published Temperature = 96 C Humidity = 62 % to IBM Watson
Published Temperature = 104 C Humidity = 63 % to IBM Watson
Published Temperature = 105 C Humidity = 62 % to IBM Watson
Published Temperature = 100 C Humidity = 93 % to IBM Watson
Published Temperature = 98 C Humidity = 66 % to IBM Watson
Published Temperature = 91 C Humidity = 74 % to IBM Watson
Published Temperature = 96 C Humidity = 85 % to IBM Watson
Published Temperature = 90 C Humidity = 94 % to IBM Watson

```

msg payload

temp

hum

debug

```

11/18/2022, 7:13:31 PM node: ce4cf0b9c0bcd4f1
iot-2/type/TemperatureId/123456/ev/IoTSensor/fmt/json
: msg.payload : number
96

11/18/2022, 7:13:31 PM node: ce4cf0b9c0bcd4f1
iot-2/type/TemperatureId/123456/ev/IoTSensor/fmt/json
: msg.payload : number
85

11/18/2022, 7:13:41 PM node: ce4cf0b9c0bcd4f1
iot-2/type/TemperatureId/123456/ev/IoTSensor/fmt/json
: msg.payload : Object
{ temp: 90, HumId: 94 }

11/18/2022, 7:13:41 PM node: ce4cf0b9c0bcd4f1
iot-2/type/TemperatureId/123456/ev/IoTSensor/fmt/json
: msg.payload : number
90

11/18/2022, 7:13:41 PM node: ce4cf0b9c0bcd4f1
iot-2/type/TemperatureId/123456/ev/IoTSensor/fmt/json
: msg.payload : number
94

```

Type here to search

Application Details - IBM Cloud x Node-RED: node-red-tvns-202 x Node-RED Dashboard x IBM Watson IoT Platform

node-red-tvns-2022-11-16.eu-gb.mybluemix.net/ui/#/07/socketId=XzxbWebcqb0S20zAAAT

Smart home

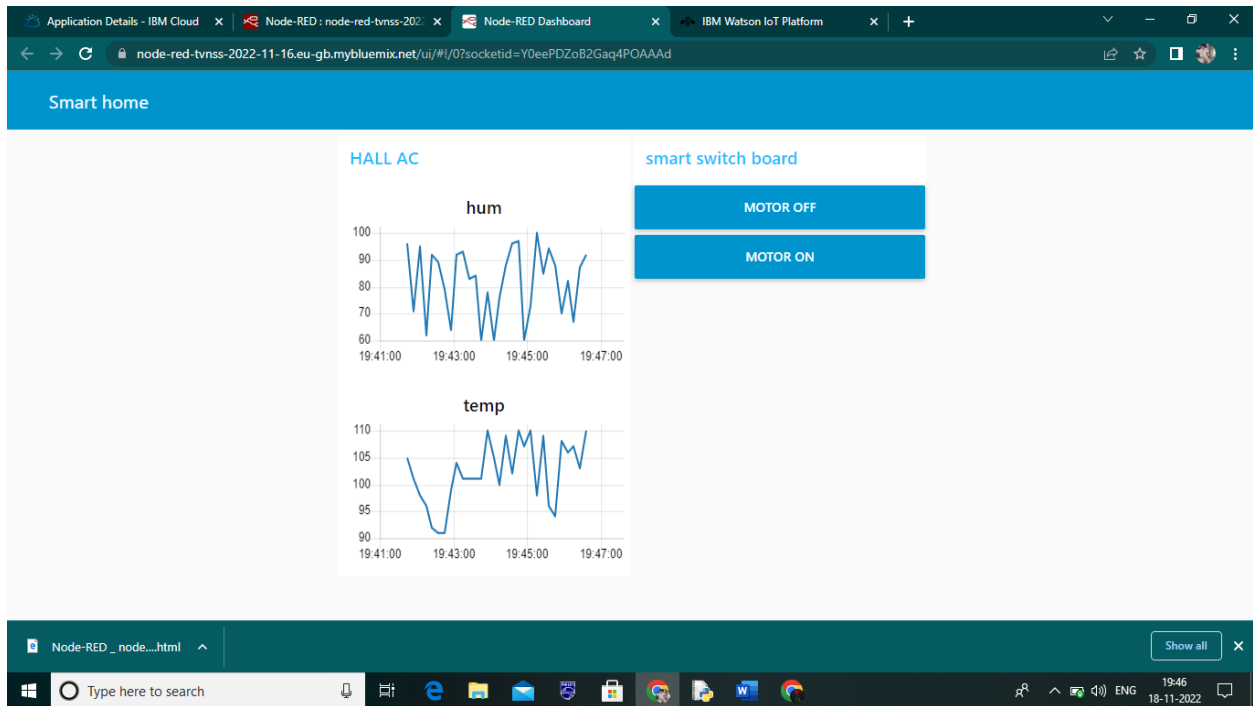
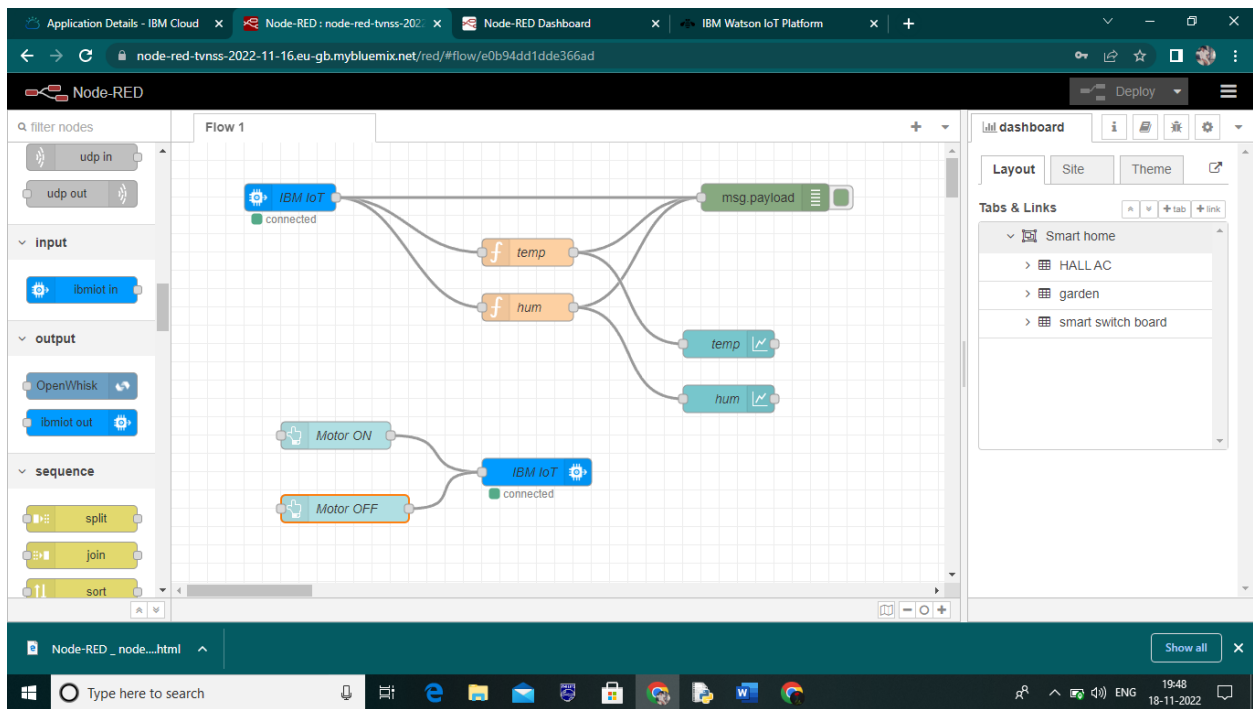
HALL AC

hum

temp

Node-RED _node_...html

Type here to search



```
Python 3.7.0 Shell
File Edit Shell Debug Options Window Help
Published Temperature = 106 C Humidity = 97 % to IBM Watson
Published Temperature = 95 C Humidity = 99 % to IBM Watson
Published Temperature = 101 C Humidity = 93 % to IBM Watson
Published Temperature = 108 C Humidity = 69 % to IBM Watson
Published Temperature = 102 C Humidity = 83 % to IBM Watson
Published Temperature = 94 C Humidity = 86 % to IBM Watson
Published Temperature = 98 C Humidity = 64 % to IBM Watson
Published Temperature = 98 C Humidity = 100 % to IBM Watson
Published Temperature = 104 C Humidity = 76 % to IBM Watson
Published Temperature = 105 C Humidity = 65 % to IBM Watson
Published Temperature = 91 C Humidity = 92 % to IBM Watson
Published Temperature = 96 C Humidity = 69 % to IBM Watson
Published Temperature = 109 C Humidity = 67 % to IBM Watson
Published Temperature = 106 C Humidity = 81 % to IBM Watson
Published Temperature = 91 C Humidity = 100 % to IBM Watson
Published Temperature = 100 C Humidity = 79 % to IBM Watson
Published Temperature = 98 C Humidity = 62 % to IBM Watson
Published Temperature = 106 C Humidity = 84 % to IBM Watson
Published Temperature = 91 C Humidity = 71 % to IBM Watson
Published Temperature = 105 C Humidity = 96 % to IBM Watson
Published Temperature = 101 C Humidity = 71 % to IBM Watson
Published Temperature = 98 C Humidity = 95 % to IBM Watson
Published Temperature = 96 C Humidity = 62 % to IBM Watson
Published Temperature = 92 C Humidity = 92 % to IBM Watson
Published Temperature = 91 C Humidity = 89 % to IBM Watson
Command received: motoroff
please send proper command
Published Temperature = 91 C Humidity = 79 % to IBM Watson
Published Temperature = 99 C Humidity = 64 % to IBM Watson
Published Temperature = 104 C Humidity = 92 % to IBM Watson
Published Temperature = 101 C Humidity = 93 % to IBM Watson
Published Temperature = 101 C Humidity = 83 % to IBM Watson
Published Temperature = 101 C Humidity = 84 % to IBM Watson
Published Temperature = 101 C Humidity = 60 % to IBM Watson
Published Temperature = 110 C Humidity = 78 % to IBM Watson
Published Temperature = 105 C Humidity = 60 % to IBM Watson
Published Temperature = 100 C Humidity = 76 % to IBM Watson
Command received: motoron
motor is on
Published Temperature = 109 C Humidity = 88 % to IBM Watson
|
```

Link done: <https://node-red-tvnss-2022-11-16.eu-gb.mybluemix.net/red/#flow/e0b94dd1dde366ad>