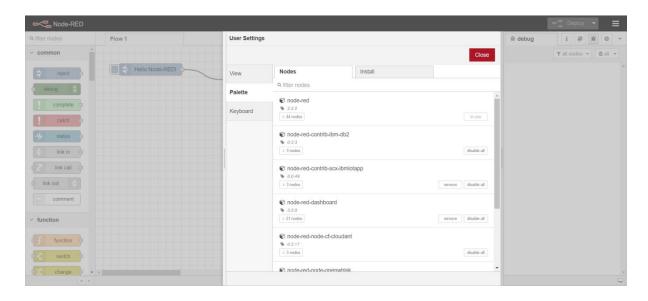
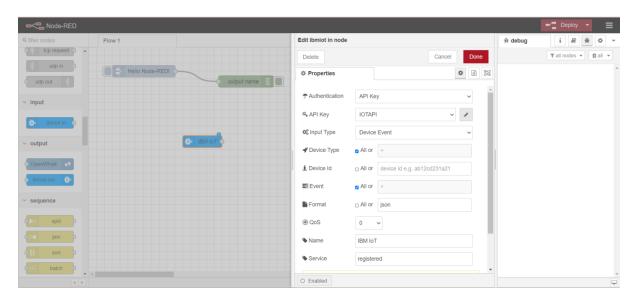
## **DEVELOP THE WEB APPLICATION USING Node- RED**

STEP 1: OPEN CLOUD SERVICES→RESOURCE LIST→COMPUTE→ NODE –RED→VISIT APP URL→NODE RED

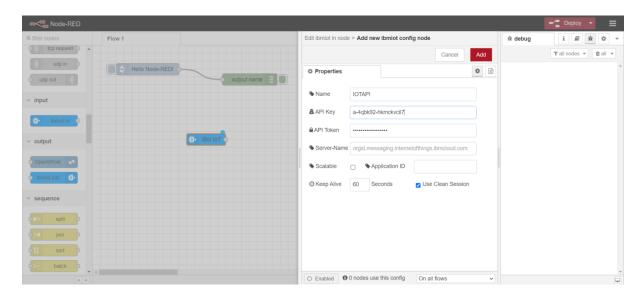
INSTALL THE IBMIOT AND DASHBOARD LIBRARIES



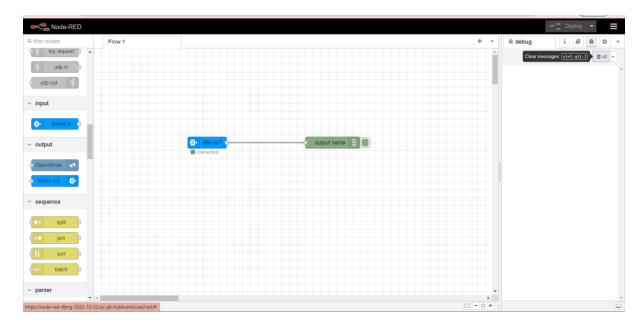
#### STEP 2: DRAG AND DROP IBM IOT IN NODE AND DOUBLE CLICK IT AND GIVE API KEY



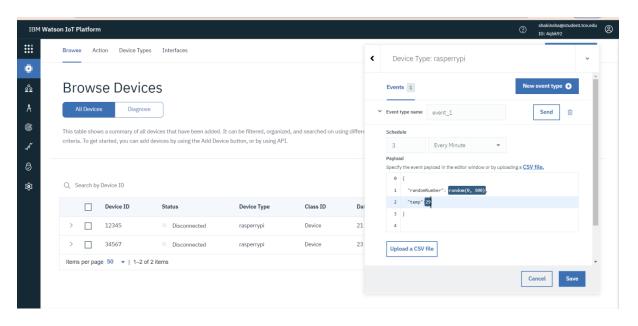
#### STEP 3: NEW API KEY SHOULD BE GENERATED AND THE DETAILS SHOULD BE GIVEN



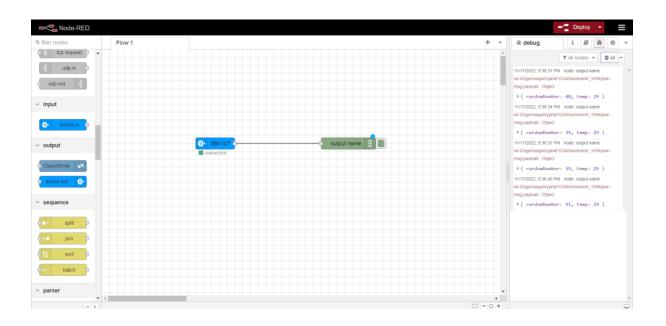
## STEP 4: THEN CONNETC THE IBM IOT IN NODE TO THE OUTPUT NAME NODE



# **STEP 5:** IN WATSON IOT PLATFORM GO TO SIMULATING DEVICE AND CREATE THE EVENT AS RANDOM NUMBER GENERATOR AND TEMPERATURE VALUE BEEN GIVEN AND CLICK SEND



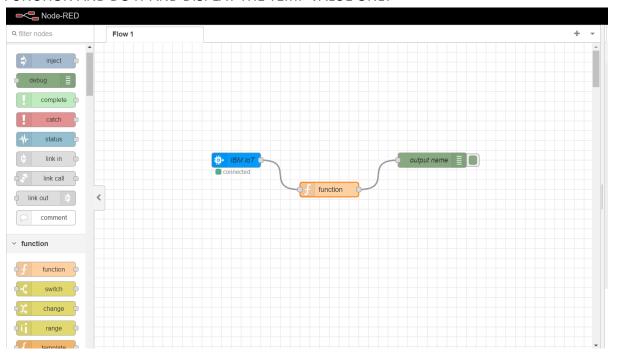
**STEP 6:** BACK TO NODE RED . CLICK ON DEPLOY AND IN THE DEBUG TAB WE COULD SEE THE RANDOM NUMBER AND TEMP VALUES AS THE OUTPUT



```
msg.payload: Object
▶ { randomNumber: 39, temp: 29 }
11/17/2022, 9:36:40 PM node: output name
iot-2/type/rasperrypi/id/12345/evt/event 1/fmt/json:
msg.payload: Object
 ▶ { randomNumber: 91, temp: 29 }
11/17/2022, 9:36:43 PM node: output name
iot-2/type/rasperrypi/id/12345/evt/event 1/fmt/json:
msg.payload: Object
 ▶ { randomNumber: 58, temp: 29 }
11/17/2022, 9:36:46 PM node: output name
iot-2/type/rasperrypi/id/12345/evt/event 1/fmt/json:
msg.payload: Object
 ▶ { randomNumber: 48, temp: 29 }
11/17/2022, 9:36:49 PM node: output name
iot-2/type/rasperrypi/id/12345/evt/event 1/fmt/json:
msg.payload: Object
 ▶ { randomNumber: 59, temp: 29 }
11/17/2022, 9:36:52 PM node: output name
iot-2/type/rasperrypi/id/12345/evt/event 1/fmt/json:
msg.payload: Object
 ▶ { randomNumber: 14, temp: 29 }
11/17/2022, 9:36:55 PM node: output name
iot-2/type/rasperrypi/id/12345/evt/event 1/fmt/json:
msg.payload: Object
 ▶ { randomNumber: 7, temp: 29 }
```

## **ADDING FUNCTION:**

IN CASE WE WANT A FUNCTION TO CALCULATE SOME VALUES AND DISPLAY WE COULD FUNCTION AND DO IT AND DISPLAY THE TEMP VALUE ONLY



## IN FUNCTION GIVE THE REQUIRED COMMANDS AND DEPLY IT:

