

Sprint - 1

Team Id	PNT2022TMID02630
Title	Hazardous Area Monitoring For Industrial Plant Using Iot

Configuring the IBM cloud services

IBM Watson Platform

The screenshot displays the IBM Cloud IoT Platform console. The top navigation bar shows the IBM Cloud logo and a search bar. The main content area is titled 'Internet of Things Platform-tw' and includes a 'Manage' sidebar with 'Plan' and 'Connections' options. The main content area features a 'Let's get started with IBM Watson IoT Platform' section with 'Launch' and 'Docs' buttons. Below this is a 'Ready for the next level?' section titled 'IBM Watson IoT Platform Journey' with three service plans: Lite (Free), Non-Production (Starts at \$500 per month), and Production (Includes IBM Service & Support).

IBM Watson IoT Platform

Browse Action Device Types Interfaces

Browse Devices

All Devices Diagnose

This table shows a summary of all devices that have been added. It can be filtered, organized, and searched on using different criteria. To get started, you can add devices by using the Add Device button, or by using API.

Search by Device ID

Device Simulator

Device ID	Status	Device Type	Class ID	Date Added	Descriptive Location
12345	Disconnected	abcd	Device	18 Nov 2022 23:06	
56789	Disconnected	efgh	Device	19 Nov 2022 08:42	

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Node Red Configuration

cloud.ibm.com/developer/appservice/apps/da2ee29b-2b7f-470c-9893-ce84faf5e6f6

Node RED HQMOJ 2022-11-17

Details

App URL: You must deploy your app first

Source: [Download code](#)

Resource group: Default

Deployment target: You must deploy your app first

Created: 17/11/2022

Services

Cloudant

Open dashboard Documentation API reference

Credentials

Connect existing services Create service

Deployment Automation

Name: NodeREDHQMOJ2022-11-17

Location: London

Tool integrations

Delivery Pipelines

Name: pr-pipeline

Status: No stages detected

Name: ci-pipeline

Status: Success

Getting started quickly

Configuring your app

To connect services and DevOps toolchains to your app:

1. Use the **Services** card to connect a service to your app. Select an existing service instance, or create a new one. [Learn more.](#)
2. If you want to view the code before your app is deployed, click **Download code** to obtain the .zip file.
3. Click **Deploy your app** in the **Deployment Automation** card to select the deployment target and configure the Continuous Delivery service. The deployment begins automatically.
4. After the deployment begins, you can view the status of the deployment, modify your app, view your repo, or view the

Cloudant dB

IBM Cloud

node-red-hqmoj-2022--cloudant-1668667940121 Active Add tags

Details Actions...

Manage Overview Capacity Docs

Service credentials Plan Connections

Deployment details

CRN: crn:v1:bluemix:public:cloudantnosqldb:eu-gb:a/dde4ef3bf0f34866ba7e1cbc495c974e:91eec95d-a2ff-458f-ab40-946cf09e3de9::

Location: London

External endpoint: <https://8e8558ed-36b4-4ba5-a2f6-371ce7014fe0-bluemix.cloudant.com>

External endpoint (preferred): <https://8e8558ed-36b4-4ba5-a2f6-371ce7014fe0-bluemix.cloudantnosqldb.appdomain.cloud>

Authentication methods: IBM Cloud IAM and Cloudant credentials Migrate to IAM Only

Activity Tracker event types: Management Save

Disk encryption: Yes. Automatically generated disk encryption key.

Launch Dashboard

28°C Mostly sunny 19-11-2022 10:13

Generation of Python code for publishing the random sensor data to the IBM IoT WATSON Platform.

WOKWI

SAVE SHARE

Docs

sketch.ino diagram.json libraries.txt Library Manager

```
1 #include <WiFi.h> // Library for wifi
2 #include <PubSubClient.h> // Library for MQTT
3 #include "DHT.h" // Library for dht11
4 #define DHTPIN 15 // what pin we're connected to
5 #define DHTTYPE DHT22 // define type of sensor DHT 11
6 #define LED 2
7
8 DHT dht (DHTPIN, DHTTYPE); // creating the instance by passing pin and type of dht component
9
10 void callback(char* topic, byte* payload, unsigned int payloadLength);
11
12 //-----credentials of IBM Accounts-----
13
14 #define ORG "3lhmffj" // IBM ORGANIZATION ID
15 #define DEVICE_TYPE "efgh" // Device type mentioned in IBM Watson IoT Platform
16 #define DEVICE_ID "56789" // Device ID mentioned in IBM Watson IoT Platform
17 #define TOKEN "123456789" // Token
18 String data3;
19 float h, t;
20
21
22 //----- Customise the above values -----
23 char server[] = ORG ".messaging.internetofthings.ibmcloud.com"; // Server Name
24 char publishTopic[] = "iot-2/evt/Data/fmt/json"; // topic name and type of event performance
25 char subscribeTopic[] = "iot-2/cmd/command/fmt/String"; // cmd REPRESENT command type
26 char authMethod[] = "use-token-auth"; // authentication method
27 char token[] = TOKEN;
28 char clientId[] = "d:" ORG ":" DEVICE_TYPE ":" DEVICE_ID; // client id
29
30
31 //-----
32 WiFiClient wifiClient; // creating the instance for WiFi client
33 PubSubClient client(server, 1883, callback, wifiClient); // calling the predefined client
34
35
```

Simulation

02:38.197 103%

Editing DHT22

Temperature: 24.0°C

Humidity: 40.0%

temp:24.00
Humid:40.00
Sending payload: {"temp":24.00,"Humid":40.00}
Publish ok
temp:24.00

ESP32

DHT22

09:42 19-11-2022

Random Temperature and humidity values generated and published to IBM IoT platform

IBM Watson IoT Platform

Search by Device ID

Device ID	Status	Device Type	Class ID	Date Added	Descriptive Location
12345	Disconnected	abcd	Device	18 Nov 2022 23:06	
56789	Connected	efgh	Device	19 Nov 2022 08:42	

Device Simulator ☐

Identity Device Information Recent Events State Logs

Device ID: 56789

Device Type: efgh

Date Added: 19 Nov 2022 08:42

Added By: priyadharshini.sb.2019.it@rajalakshmi.edu.in

Connection Status: Connected

Connection Time: 19 Nov 2022 09:37

Client Address: 50.31.197.64 Insecure

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Identity Device Information Recent Events State Logs

The recent events listed show the live stream of data that is coming and going from this device.

Event	Value	Format	Last Received
event_1	{"randomNumber":74,"temp":63,"hum":92}	json	a few seconds ago
event_1	{"randomNumber":55,"temp":46,"hum":85}	json	a minute ago
event_1	{"randomNumber":74,"temp":33,"hum":89}	json	3 minutes ago
event_1	{"randomNumber":82,"temp":65,"hum":88}	json	4 minutes ago
event_1	{"randomNumber":96,"temp":12,"hum":96}	json	5 minutes ago