

Create and Configure IBM Cloud Services

Date	05 October 2022
Team ID	PNT2022TMID15286
Project Name	IOT based Smart Waste Management System For Meteropolitan Cities

Create IBM Watson Platform and device:

Creating and Launching IBM Watson Platform:

The screenshot shows the IBM Cloud Catalog page for the Internet of Things Platform. The page is titled "Internet of Things Platform" and includes a description: "This service is the hub of all things IBM IoT, it is where you can set up and manage your connected devices so that your apps can access their live and historical data." The "Create" tab is selected, and the "Select a location" dropdown is set to "Frankfurt (eu-de)". The "Select a pricing plan" section shows a table with the "Lite" plan selected, which is free and includes up to 500 registered devices and a maximum of 200 MB of each data metric. The right sidebar shows the "Summary" for the "Internet of Things Platform" with details like Location: Frankfurt, Plan: Lite, and Service name: Internet of Things Platform-et. A warning message indicates that only 1 Lite plan instance can be created per resource group.

Plan	Features	Pricing
Lite	Includes up to 500 registered devices, and a maximum of 200 MB of each data metric of each data metric Maximum of 500 registered devices Maximum of 500 application bindings Maximum of 200 MB of each of data exchanged, data analyzed and edge data analyzed	Free

Create device:

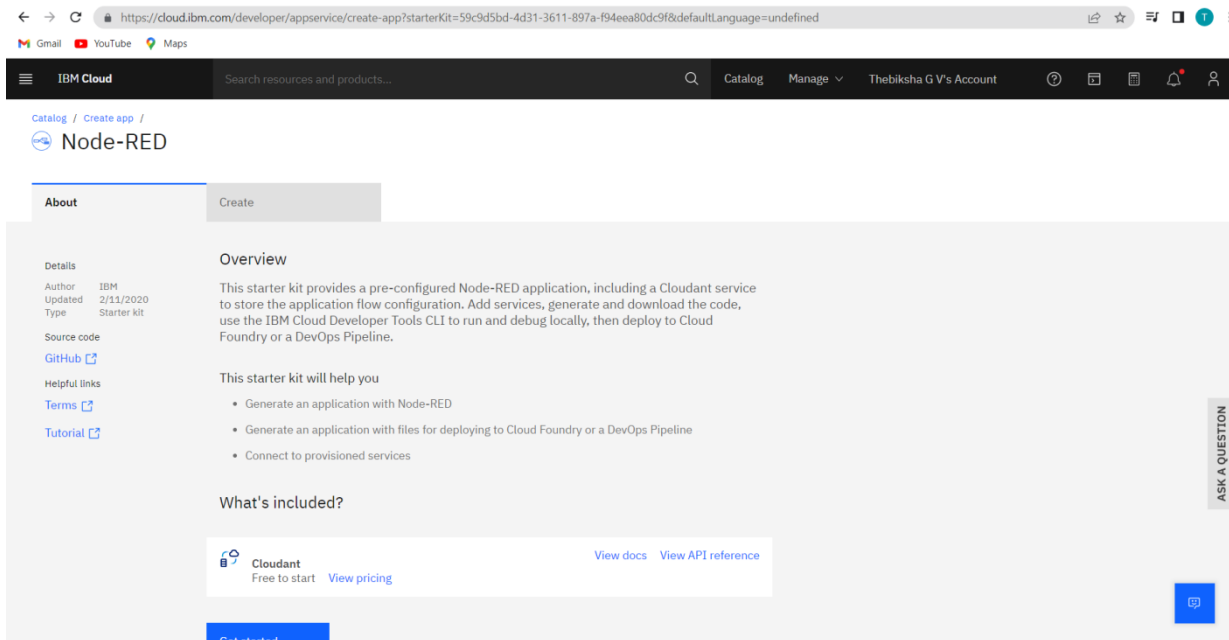
The screenshot shows the IBM Watson IoT Platform dashboard. The "Browse" tab is selected, and the "Add Device" button is visible. The "Search by Device ID" field is present. The table below lists the devices, with the first device selected. The details for the selected device are shown in the "Identity" tab.

Device ID	Status	Device Type	Class ID	Date Added	Descriptive Location
12345	Disconnected	NodeMCU	Device	Nov 10, 2022 8:21 PM	

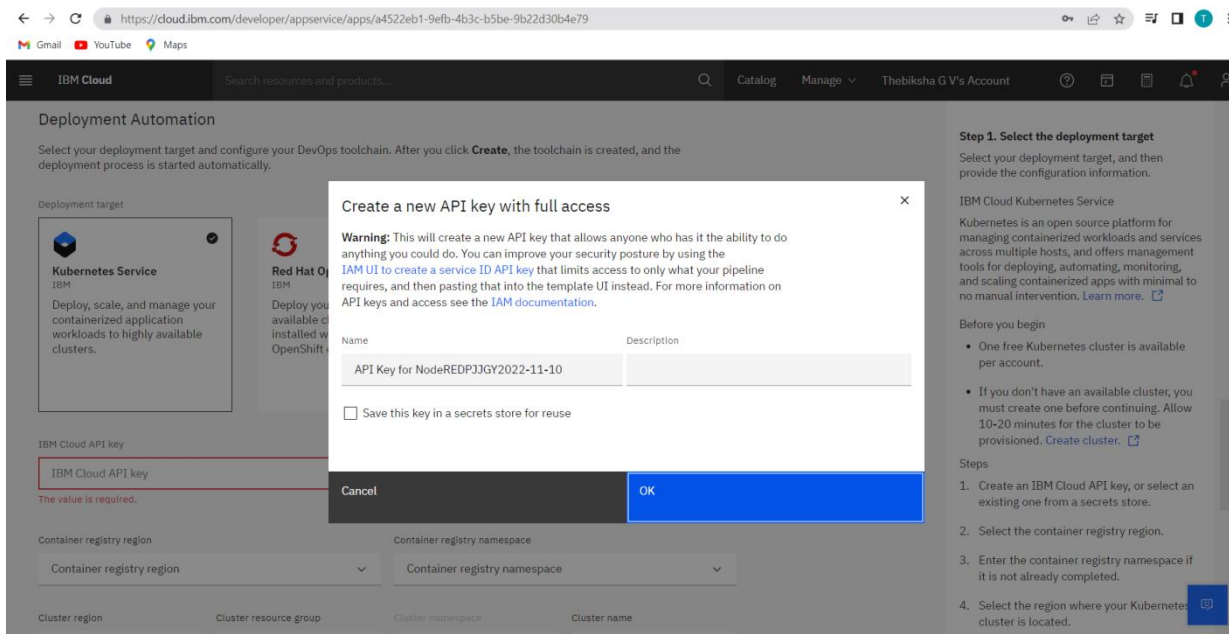
Identity	Device Information	Recent Events	State	Logs
Device ID	12345			
Device Type	NodeMCU			
Date Added	Nov 10, 2022 8:21 PM			
Added By	thebiksha@gmail.com			
Connection Status	Disconnected			

NODE RED Service:

To create a Node RED Service:



Generate your API key:



Creating Node RED:

The screenshot shows the IBM Cloud Developer console for a Node RED application. The URL is <https://cloud.ibm.com/developer/appservice/apps/a4522eb1-9efb-4b3c-b5be-9b22d30b4e79>. The application is named "Node RED PJJGY 2022-11-10".

Details:

- App URL: You must deploy your app first
- Source: Download code
- Resource group: Default
- Deployment target: You must deploy your app first
- Created: 11/10/2022

Services:

- Cloudant: Open dashboard, Documentation, API reference
- Connect existing services: +
- Create service: +

Deployment Automation:

- Configure Continuous Delivery: Continuous Delivery is not enabled for this app. Enable Continuous Delivery to automate builds, tests, and deployments through Delivery Pipeline, GitLab, and more.
- Checking cache...

Getting started quickly:

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

Click on the App URL after the Deployment Automation:

The screenshot shows the IBM Cloud Developer console for the same Node RED application. The URL is <https://cloud.ibm.com/developer/appservice/apps/a4522eb1-9efb-4b3c-b5be-9b22d30b4e79>.

Details:

- App URL: <https://node-red-pjigy-2022-11-10.eu-gb.mybluemix.net>
- Source: <https://us-south.git.cloud.ibm.com/thebiksha/NodeREDPJJGY...>
- Resource group: Default
- Deployment target: Node RED PJJGY 2022-11-10
- Created: 11/10/2022

Services:

- Cloudant: Open dashboard, Documentation, API reference
- Connect existing services: +
- Create service: +

Deployment Automation:

- Name: NodeREDPJJGY2022-11-10
- Location: Dallas
- Tool integrations: [Icons]
- Delivery Pipelines:
 - Name: pr-pipeline, Status: No stages detected
 - Name: ci-pipeline, Status: Success

The screenshot shows the Node-RED welcome page on IBM Cloud. The URL is https://node-red-pjigy-2022-11-10.eu-gb.mybluemix.net/?_ga=2.136818608.1424621649.1668066354-42574025.1668066354.

Welcome to your new Node-RED instance on IBM Cloud

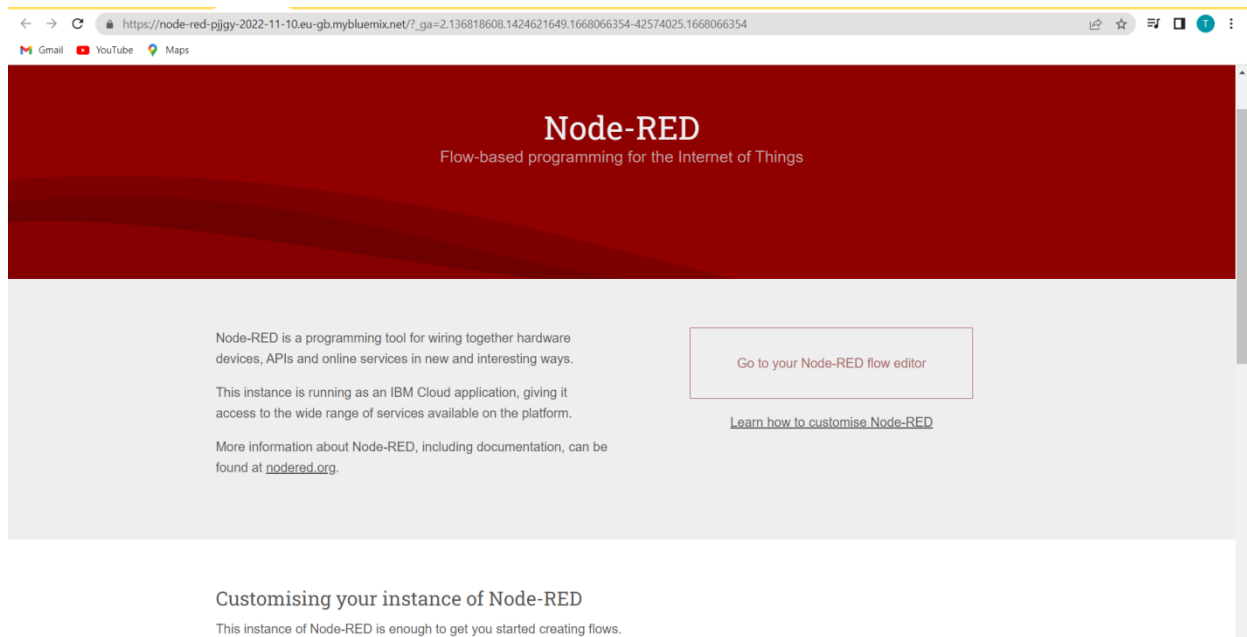
We know you're eager to start wiring up your flows, but first there are a couple of tasks you should do:

- Secure your Node-RED editor
- Learn how to install additional nodes

Progress bar: [Progress indicator]

Buttons: Previous, Next

Successful creation of the Service:



The screenshot shows a web browser window with the URL `https://node-red-pjigy-2022-11-10-eu-gb.mybluemix.net/?_ga=2.136818608.1424621649.1668066354-42574025.1668066354`. The page has a dark red header with the text "Node-RED" and "Flow-based programming for the Internet of Things". Below the header, there is a light gray section with text describing Node-RED as a programming tool for wiring together hardware devices, APIs and online services. A button labeled "Go to your Node-RED flow editor" is present, along with a link to "Learn how to customise Node-RED".

Node-RED is a programming tool for wiring together hardware devices, APIs and online services in new and interesting ways.

This instance is running as an IBM Cloud application, giving it access to the wide range of services available on the platform.

More information about Node-RED, including documentation, can be found at nodered.org.

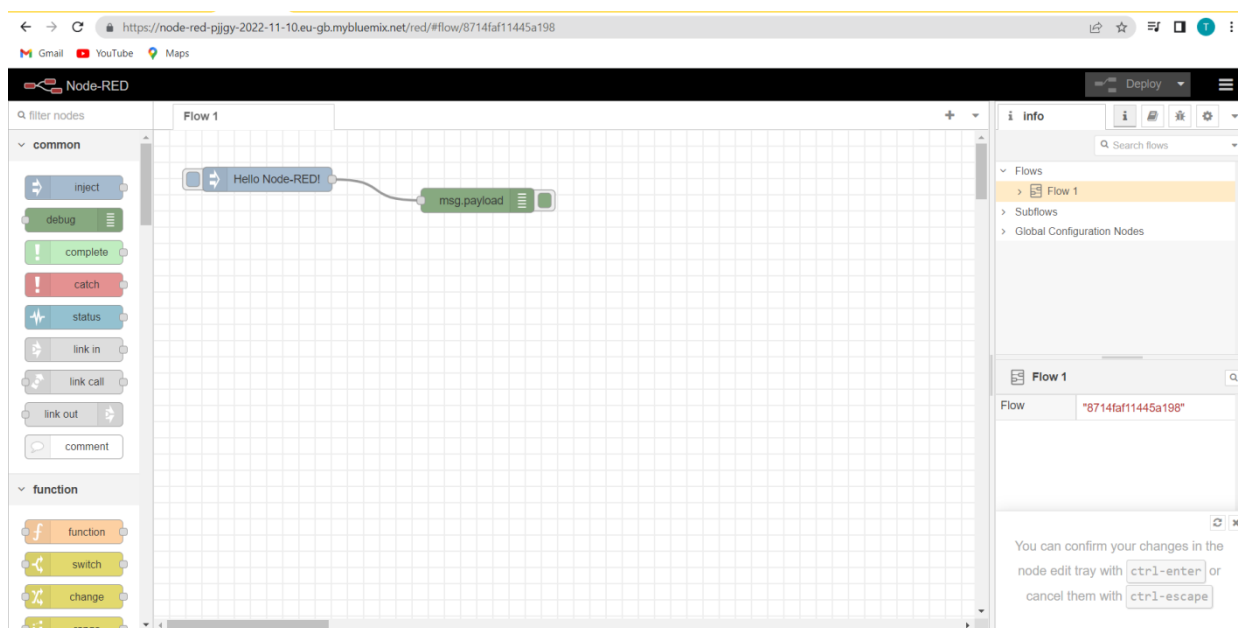
[Go to your Node-RED flow editor](#)

[Learn how to customise Node-RED](#)

Customising your instance of Node-RED

This instance of Node-RED is enough to get you started creating flows.

Node RED Flow Editor:



The screenshot shows the Node-RED Flow Editor interface. The main workspace is a grid where a flow is being edited. The flow consists of a "Hello Node-RED!" node connected to a "msg payload" node. The left sidebar shows a list of nodes categorized under "common" and "function". The right sidebar shows the "Info" panel for the selected flow, "Flow 1", with its ID "8714faf11445a198". A message at the bottom right states: "You can confirm your changes in the node edit tray with `ctrl+enter` or cancel them with `ctrl+escape`".

Node-RED

Flow 1

inject

debug

complete

catch

status

link in

link call

link out

comment

function

function

switch

change

range

msg payload

Flow 1

Flow "8714faf11445a198"

You can confirm your changes in the node edit tray with `ctrl+enter` or cancel them with `ctrl+escape`

Create a Database in Cloudant DB

Cloudant Database:

← →

https://e8910d10-acc5-4a51-b255-54a402c58c7d-bluemix.cloudant.com/dashboard.html

🔗 ☆ 📱 🌐

Gmail YouTube Maps

Databases

Database name

Create Database

{ } JSON

Your Databases

Name	Size	# of Docs	Partitioned	Actions
noderedpijgy20221110	16.2 KB	4	No	<div></div>

Showing 1–1 of 1 databases. Databases per page 20 1

Create a document

← →

https://e8910d10-acc5-4a51-b255-54a402c58c7d-bluemix.cloudant.com/dashboard.html#database/cloudant/_all_docs

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Gmail YouTube Maps

cloudant

Document ID

Options

{ } JSON

All Documents

Query

Permissions

Changes

Design Documents

Database created successfully

No Documents Found

Showing 0 documents. Documents per page: 20

Integrating Python to Cloudant DB:

The screenshot shows the IBM Cloudant API documentation page for Python. The browser address bar displays `https://cloud.ibm.com/apidocs/cloudant?code=python`. The page features a navigation sidebar on the left with sections like Overview, Introduction, Endpoint URLs, Authentication, Auditing, Event tracking, Error handling, Additional headers, Rate limits, Related APIs, Logging, Methods, Server, Databases, and Documents. The main content area is titled "Introduction" and "Endpoint URLs". The right sidebar contains tabs for Curl, Java, Node, Python (selected), and Go. The Python tab shows the installation command `pip3 install ibmcloudant` and a GitHub link `https://github.com/ibm/cloudant-python-sdk`.

IBM Cloud API Docs / Cloudant

Introduction

Last updated: 2022-10-24

IBM® Cloudant® for IBM Cloud® is a document-oriented database as a service (DBaaS). It stores data as documents in JSON format. It is built with scalability, high availability, and durability in mind. It comes with a wide variety of indexing options that include MapReduce, IBM Cloudant Query, full-text indexing, and geospatial indexing. The replication capabilities make it easy to keep data in sync between database clusters, desktop PCs, and mobile devices.

Detailed documentation is also available such as a [Getting started tutorial](#), [API overview documentation, tutorials, and guides](#).

This documentation describes the Python SDK and examples. To see usage information and examples in your preferred SDK, select the language tab in the right pane.

Endpoint URLs

The IBM Cloudant API uses an instance-specific endpoint URL for all regions. You can find your external endpoint by following these steps:

1. Go to the IBM Cloud dashboard and open an instance.
2. Click the Service credentials tab.
3. Click the chevron next to the service credentials to open the credentials pane.
4. Copy the value from the `host` field and prefix it with the `https://` protocol. This value is the external endpoint.

The code examples on this tab use the IBM Cloudant SDK for Python.

Installation

```
pip3 install ibmcloudant
```

GitHub

<https://github.com/ibm/cloudant-python-sdk>