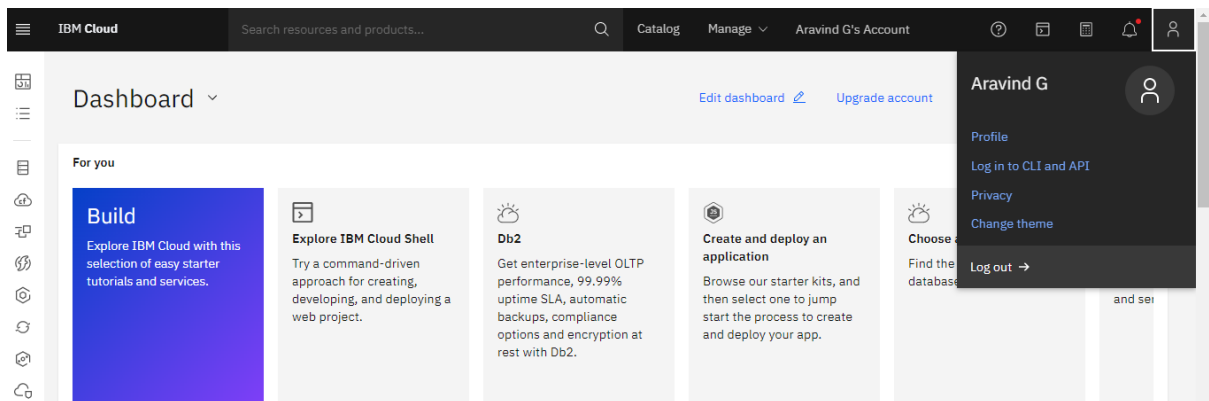


## SPRINT-2

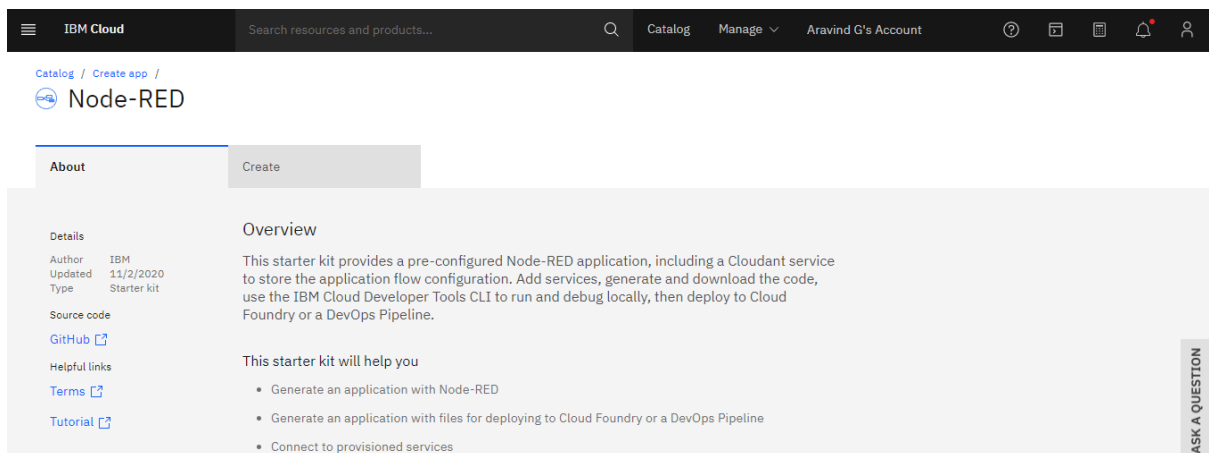
Date	05 November 2022
Team ID	PNT2022TMID00940
Project Name	SMART SOLUTIONS FOR RAILWAYS

## CREATING NODE-RED IN IBM CLOUD

### STEP 1: Open ibm cloud:



### STEP 2: Go to catalog and search for node red app and open it:



**STEP 3:** Enter the app name, location and select the plan and click on create.:

The screenshot shows the 'Create app' page for Node-RED in the IBM Cloud console. The top navigation bar includes the IBM Cloud logo, a search bar, and links for Catalog, Manage, and the user's account (Aravind G's Account). Below the navigation bar, the breadcrumb 'Catalog / Create app /' is followed by the app icon and name 'Node-RED'. Two tabs are visible: 'About' and 'Create', with 'Create' being the active tab. The 'App details' section contains several form fields: 'App name' with the value 'Node RED LXTEG 2022-11-10', 'Resource group' set to 'Default', 'Tags' with the example 'env:dev, version-1', and 'Platform' set to 'Node.js'. A blue 'ASK A QUESTION' button is located on the right side of the form.

**STEP 4:** click on deploy your app button:

The screenshot shows the 'App details' page for the app 'Node RED NGHJKJ 2022-11-04'. The top navigation bar includes the IBM Cloud logo, a search bar, and links for Catalog, Manage, and the user's account (Aravind G's Account). Below the navigation bar, the breadcrumb 'Resource list / App details /' is followed by the app icon and name 'Node RED NGHJKJ 2022-11-04'. A blue 'ASK A QUESTION' button is located on the right side of the page. The 'Details' section shows the app's URL, source code (with a 'Download code' button), resource group (Default), deployment target, and creation date (11/4/2022). The 'Services' section shows the 'Cloudant' service with links to 'Open dashboard', 'Documentation', and 'API reference'. A blue 'Deploy your app' button is located in the 'Deployment Automation' section. The 'Getting started quickly' section provides a list of steps for configuring the app, including connecting services, downloading code, and deploying the app.

**STEP 5:** In deployment automation select cloud foundry and click on create.org:

The screenshot shows the 'Deployment Automation' page in the IBM Cloud console. The title is 'Node RED NGHJK 2022-11-04'. There are two tabs: 'Select the deployment target' (active) and 'Configure the DevOps toolchain'. The 'Deployment target' section lists four options: Kubernetes Service, Red Hat OpenShift, Cloud Foundry (selected), and Code Engine. Below these is a field for 'IBM Cloud API key' with a red border and a message 'The value is required.' A 'New' button is next to the field. On the right, there is a 'Getting started with apps' sidebar with 'Step 1. Select the deployment target' and a 'Create org.' link. A vertical 'ASK A QUESTION' button is on the far right.

Resource list / App details /

## Node RED NGHJK 2022-11-04

Select the deployment target    Configure the DevOps toolchain

### Deployment Automation

Select your deployment target and configure your DevOps toolchain. After you click **Create**, the toolchain is created, and the deployment process is started automatically.

Deployment target

**Kubernetes Service**  
IBM  
Deploy, scale, and manage your containerized application workloads to highly available clusters.

**Red Hat OpenShift**  
IBM  
Deploy your apps on highly available clusters that come installed with Red Hat OpenShift on IBM Cloud.

**Cloud Foundry**  
IBM  
Deploy and run your applications without managing servers or clusters. A Lite plan is available for quick and easy deployment.

**Code Engine**  
IBM  
Run your app, job, or container on a managed serverless platform. Auto-scale workloads, and pay only for the resources that you consume.

IBM Cloud API key

The value is required.

<https://cloud.ibm.com>    New +

#### Getting started with apps

##### Step 1. Select the deployment target

Select your deployment target, and then provide the configuration information.

**IBM Cloud Foundry**

Cloud Foundry is the premier industry standard Platform-as-a-Service (PaaS) that ensures fast, easy, and reliable deployment of cloud-native apps. Cloud Foundry ensures that the build and deploy aspects of coding remain carefully coordinated with any attached services — resulting in quick, consistent and reliable iterating of applications. Cloud Foundry has a Lite plan that allows quick deployments for testing purposes.

Before you begin

- If your account doesn't have a Cloud Foundry org, you must create one.  
[Create org.](#)

Steps

- Select the number of instances, memory allocation, **region, org,** and **space.**

ASK A QUESTION

**STEP 6:** click on create button and enter the name and create a space:

The screenshot shows the 'Cloud Foundry Public' page in the IBM Cloud console. The left sidebar has 'Cloud Foundry' and 'Public' selected. The main area has a 'Create' button. A blue notification banner states 'IBM Cloud Foundry Public is being deprecated. Please see full details.' Below is a table with columns: Name, Group, Location, Status, and Tags. The table shows one application: 'Node RED GITMX 2022-11-08' with status 'Started'. There are also filters for name, group, location, and status.

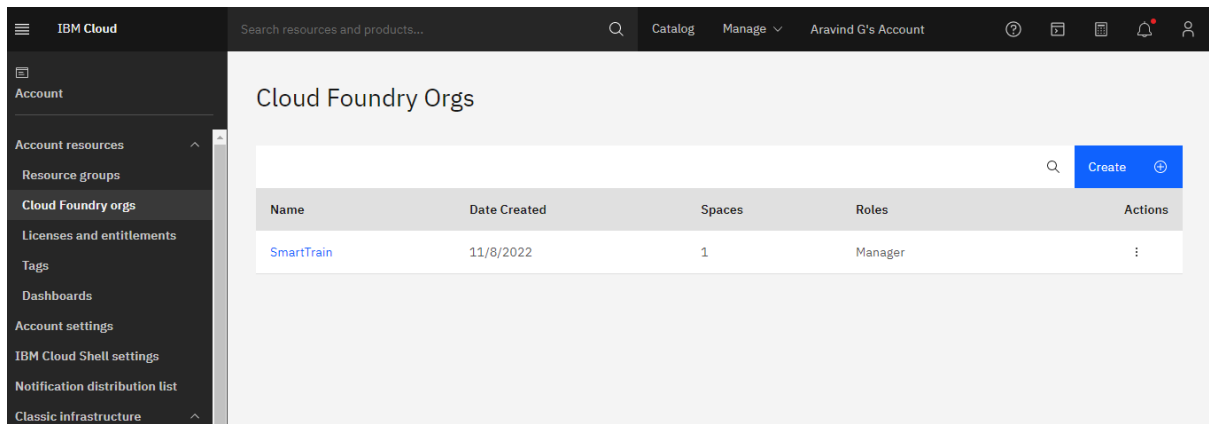
IBM Cloud    Search resources and products...    Catalog    Manage    Aravind G's Account

## Cloud Foundry Public

Create

IBM Cloud Foundry Public is being deprecated. Please see full details.

Name	Group	Location	Status	Tags
Filter by name or IP address...    Filter by group or org...    Filter...    Filter...    Filter...				
Cloud Foundry Applications (1)				
Node RED GITMX 2022-11-08	SmartTrain / Train	London	Started	
Cloud Foundry Services (1)				



**STEP 7:** In app development click new on api key and select region and click next:

workloads to highly available clusters.

installed with Red Hat OpenShift on IBM Cloud.

servers or clusters. A Lite plan is available for quick and easy deployment.

platform. Auto-scale workloads, and pay only for the resources that you consume.

IBM Cloud API key

Number of instances: 1

Memory allocation per instance: 64 MB to 2000 MB (256 MB selected)

Region: London

Organization: monish16

Space: smart solutions for railways

Host: node-red-nghkj-2022-11-04

Domain: eu-gb.mybluemix.net

Buttons: Cancel, Next, New, ASK A QUESTION

**STEP 8:** select the region and click create:

Resource list / App details /

## Node RED NGHKJ 2022-11-04

Select the deployment target | Configure the DevOps toolchain

### Configure the DevOps toolchain

Give your toolchain a name and select the region to create your toolchain in.

DevOps toolchain name

NodeREDNGHKJ2022-11-04

Accept the default name, or enter a value up to 100 characters.

Region

London

Back Create

Getting started with apps

ASK A QUESTION

Refresh

**STEP 9:** Wait till you get the success in ci-pipeline and app URL is generated:

Resource list / App details /

## Node RED NGHKJ 2022-11-04

Add tags

Actions...

### Details

App URL	You must deploy your app first
Source	<a href="https://eu-gb.git.cloud.ibm.com/monishkumarts/NodeREDNGH...">https://eu-gb.git.cloud.ibm.com/monishkumarts/NodeREDNGH...</a>
Resource group	Default
Deployment target	You must deploy your app first
Created	11/4/2022

### Services

Cloudant

[Open dashboard](#) [Documentation](#) [API reference](#)

Credentials

Connect existing services + Create service +

### Deployment Automation

Name	NodeREDNGHKJ2022-11-04
Location	London
Tool integrations	

### Delivery Pipelines

Name	ci-pipeline
Status	No stages detected
Name	pr-pipeline
Status	No stages detected

### 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 app's URL.
5. If you make any changes to your app, be

ASK A QUESTION

Refresh

**STEP 10:** Now click on the generated APP URL:

Resource list / App details /

## Node RED NGHKJ 2022-11-04 [Add tags](#)

[Actions...](#)

### Details

App URL	<a href="https://node-red-nghkj-2022-11-04.eu-gb.mybluemix.net">https://node-red-nghkj-2022-11-04.eu-gb.mybluemix.net</a>
Source	<a href="https://eu-gb.git.cloud.ibm.com/monishkumarts/NodeREDNGH...">https://eu-gb.git.cloud.ibm.com/monishkumarts/NodeREDNGH...</a>
Resource group	Default
Deployment target	Node RED NGHKJ 2022-11-04
Created	11/4/2022

### Services

**Cloudant**

[Open dashboard](#) [Documentation](#) [API reference](#)

Credentials ▾

[Connect existing services](#) [Create service](#)

### Deployment Automation

Name	NodeREDNGHKJ2022-11-04
Location	London
Tool integrations	

### Delivery Pipelines

Name	ci-pipeline
Status	Success
Name	pr-pipeline
Status	No stages detected

### 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 app's URL.
5. If you make any changes to your app, be

ASK A QUESTION

**STEP 11 :** You will redirected to your node-red on ibm cloud page:

## Node-RED on IBM Cloud

# Node-RED

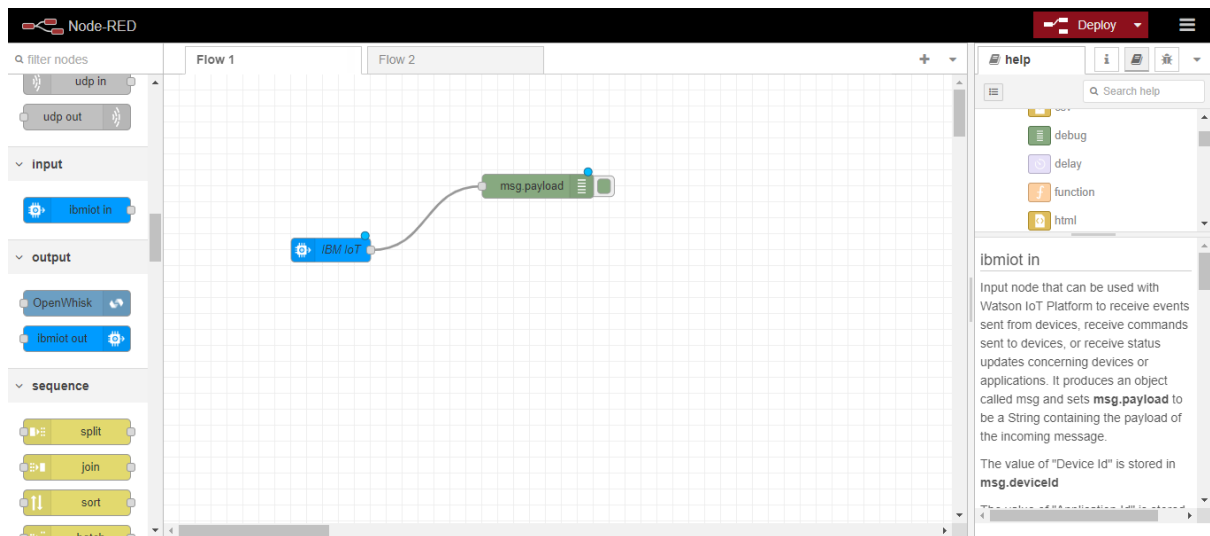
Flow-based programming for the Internet of Things

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

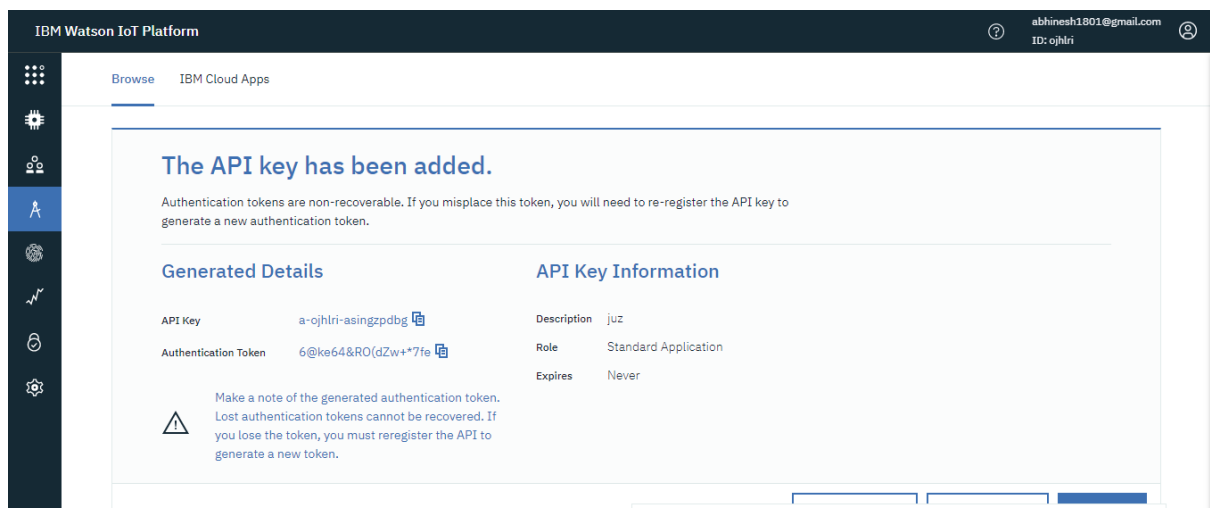
This instance is running as an IBM Cloud application, giving it access to the wide range of services available on the platform.

More information about Node-RED, including documentation, can be found at [nodered.org](https://nodered.org).

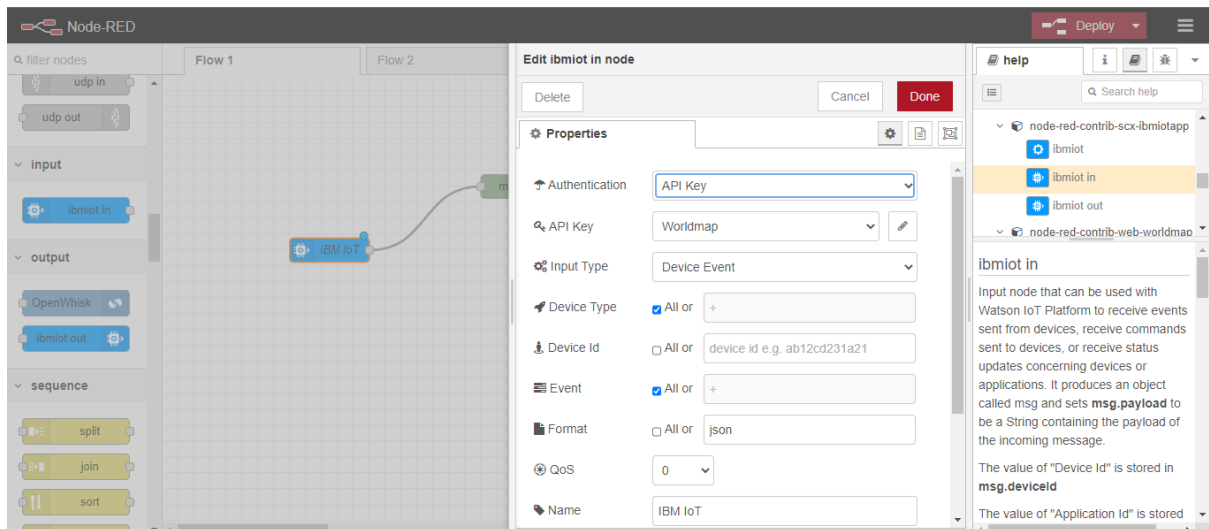
**STEP 12:** Click on node-red flow editor and you will be redirected to your node-red workspace:



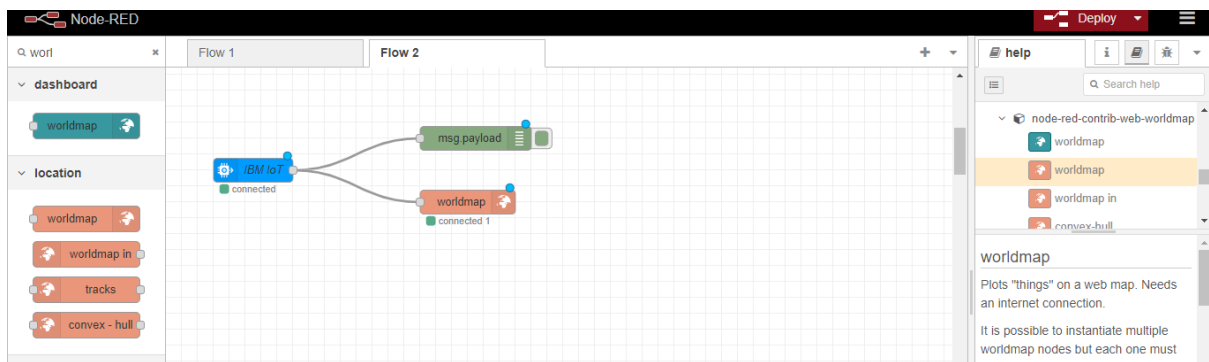
**STEP 13:** Generating API key and Authentication token:



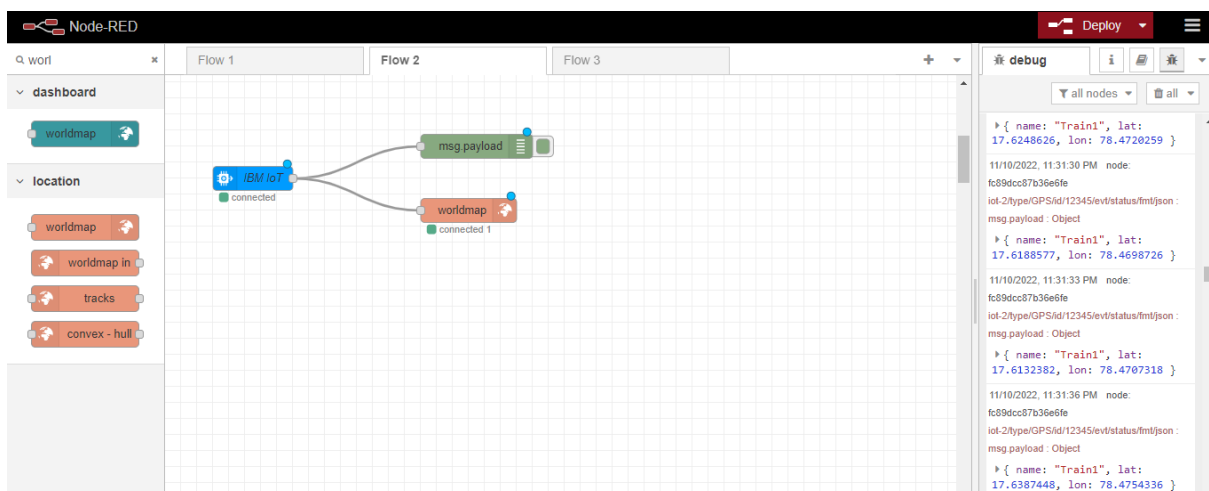
**STEP 14:** Edit Ibmiot in node:



**STEP 15:** Connect Ibmiot in and debug 1 and deploy:



**STEP 16:** Generate debug message from IBM Watson IoT Platform and connect the nodes:





IBM Watson IoT Platform

abhinash1801@gmail.com  
ID: ojhlri

Browse

Action

Device Types

Interfaces

Add Device +

12345

Connected

GPS

Device

Nov 9, 2022 8:04 PM

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
status	{"name":"Train1","lat":17.6340889,"lon":78.474...	json	a few seconds ago
status	{"name":"Train1","lat":17.6341908,"lon":78.474...	json	a few seconds ago
status	{"name":"Train1","lat":17.6387448,"lon":78.475...	json	a few seconds ago
status	{"name":"Train1","lat":17.6132382,"lon":78.470...	json	a few seconds ago
status	{"name":"Train1","lat":17.6188577,"lon":78.469...		