

# SPRINT DELIVERY-1

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Team ID	PNT2022TMID28587
Project name	Smart Waste Management System for Metropolitan Cities

## INTRODUCTION:

In this project, a system is introduced to manage the problem of unorganized and non-systematic waste collection is solved by designing an embedded IoT system. For detecting the presence of any waste IR sensor can be used. The containers are embedded with ultrasonic sensors at the top, makes it possible to measure the amount of waste in the containers. Design of a Waste Bin with real time monitoring is presented and a smart waste management system is proposed using the recent technical advancements of automation and Internet of Things (IoT). smart bins are connected to the cloud, where the bin status are communicated, recorded and monitored by the local bodies through and android app or a centralized server.

**Keywords: IoT, Waste Management, Smart waste bin, Ultrasonic sensor, Cloud**

## PROBLEM STATEMENT:

Poor waste management ranging from non-existing collection systems to ineffective disposal -causes air pollution, water and soil contamination. Open and unsanitary landfills contribute to contamination of drinking water and can cause infection and transmit diseases. IoT-based smart sensors help you utilize smart bin sensor technology, which Track the location with real-time data. View fullness levels for creating daily optimized routes for collection.

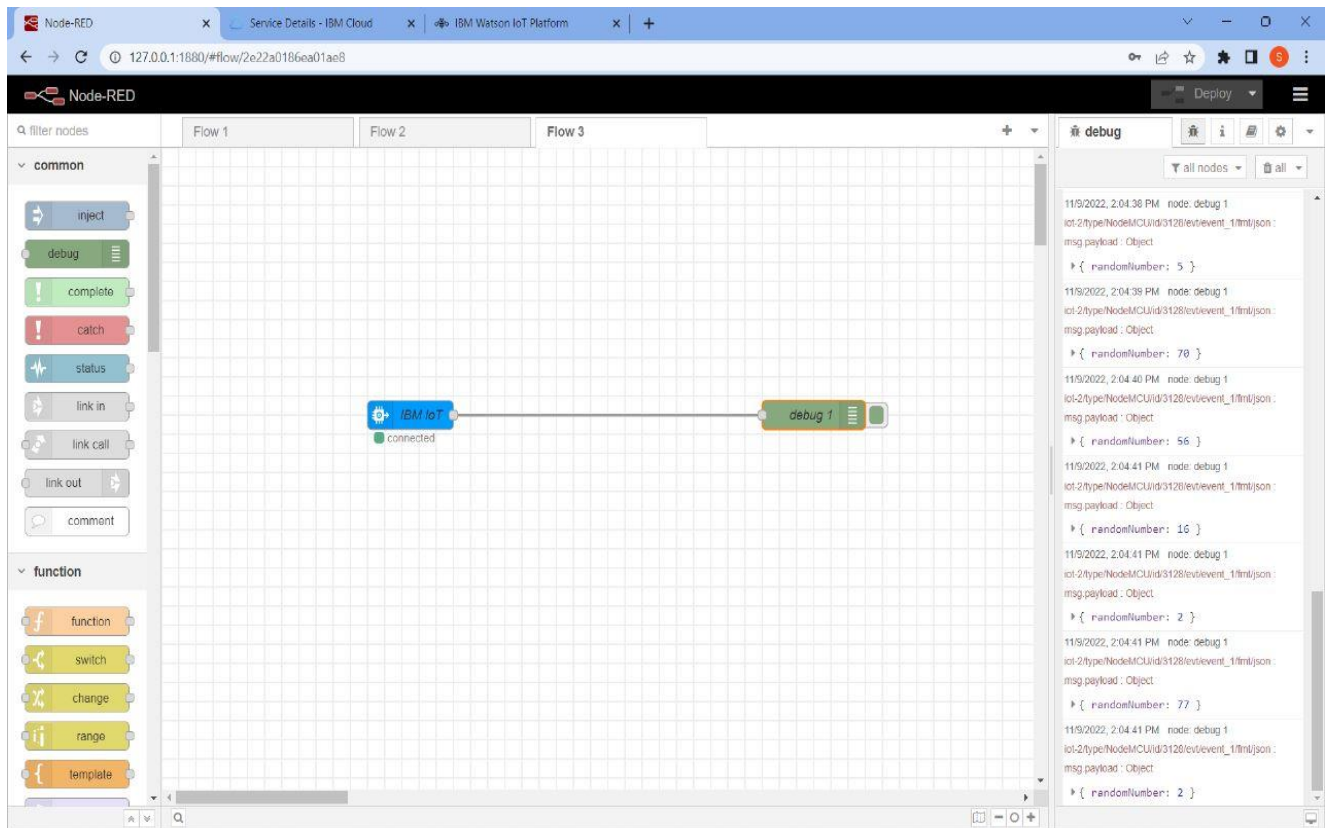
## **PROPOSED SOLUTION:**

- 24×7 monitoring system is designed for monitoring dumpsters.
- A Mobile Application for raising requests to collect/remove solid waste in a public community.
- Public participation in raising requests for solid waste collection/removal through the mobile application.
- Provides scope for citizens to raise a complaint to the municipality bodies.
- Users can keep track of the current status of their complaints.
- All the complaints raised by the public are distributed by the authority to the different
- groups of workers.
- Provides the best route plan for municipal workers for garbage collection effectively.
- Administrator can monitor all the complaints that are raised by the user.

## **REQUIRED SOFTWARE INSTALLATION:**

### **NODE-RED:**

Node-Red is a flow-based development tool for visual programming developed originally by IBM for wiring together hardware devices, APIs and online services as part of the Internet of Things. Node-RED provides a web browser-based flow editor, which can be used to create JavaScript functions.



## Installation of IBM IoT Dashboard Nodes for NODE-RED

