

Project Design Phase-II
Technology Stack (Architecture & Stack)

Date	17 October 2022
Team ID	PNT2022TMID41570
Project Name	Smart waste management system for metropolitan cities
Maximum Marks	4 Marks

Technical Architecture:

The Deliverable shall include the architectural diagram as below and the information as per the table1 & table 2

Example: Order processing during pandemics for offline mode

Reference: <https://developer.ibm.com/patterns/ai-powered-backend-system-for-order-processing-during-pandemics/>

S.No Component

1. User Interface

Description

How the user interacts with Mobile App, Chatbot etc.

Technology

Android studio, XML, Java

2. Application Logic-1

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Get Data from Server Present Data to User Put Data to Server

Java

3. Application Logic-2

FireBase is used to store the user data in an efficient manner.

Firebase - cloud storage

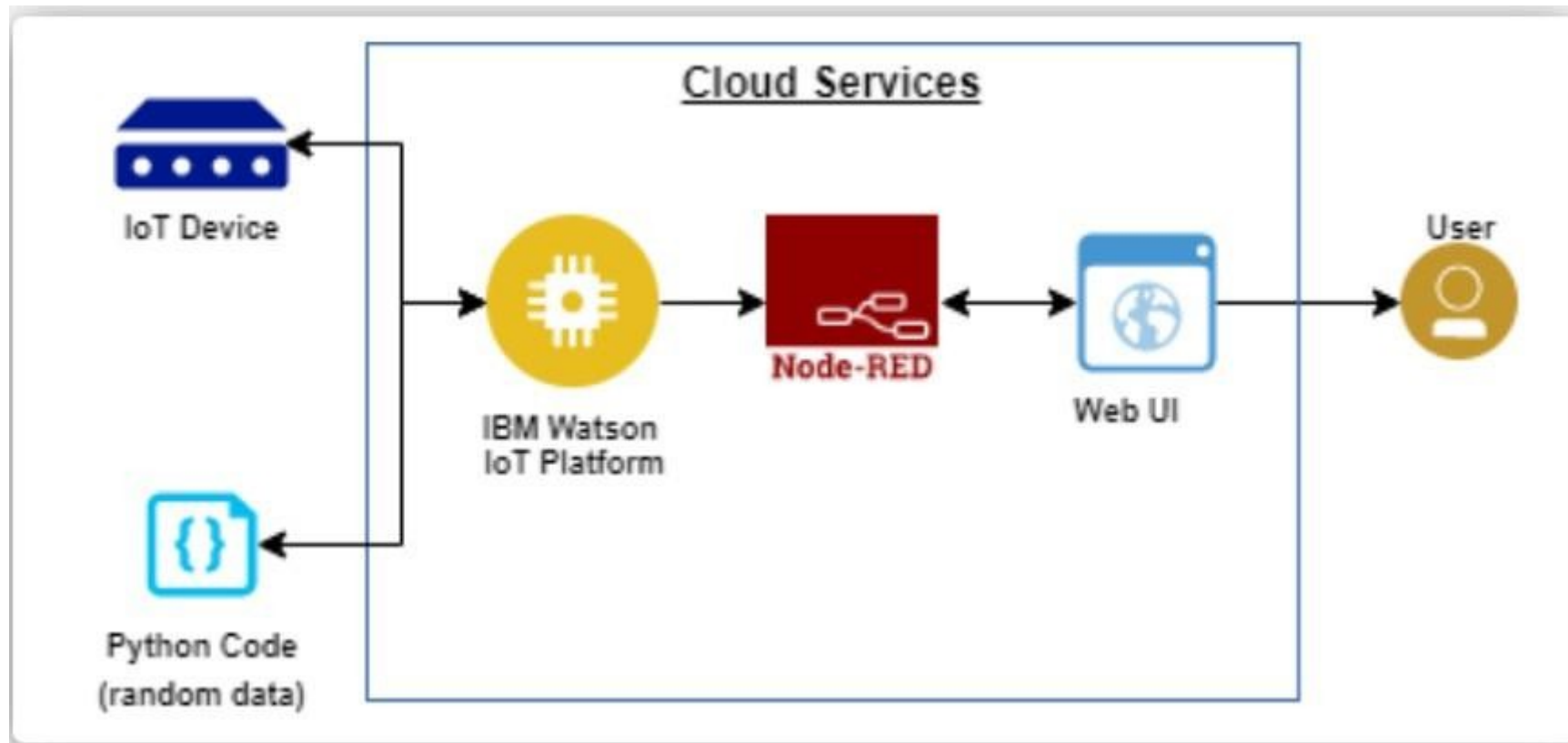


Table-1 : Components & Technologies:

4. Database		
Cloud Database		
NoSQL Database is used to store the data in the database.		
The Database service is deployed in cloud.		
MongoDB		
5. Firebase - cloud storage		
6. File Storage		
The mobile App must have at least 10MB of space. Local filesystem		
7. External API-1		
It is used to integrate all the IoT devices.		
IBM NodeRed		
8. Machine Learning Model		
To forecast the waste to be filled in a particular day python, IBM watson Cloud based on the streaming data.		
Application Deployment		
Infrastructure (Server / Cloud)		
Local, IBM watson Cloud		
S.No	Characteristics	
Description		
Technology		
Open Source Frameworks		
Security Implementations		
Used to create a Web Server that functions as an API to store the centralised system.		
Verifying the integrity of the JSON response received form the Server.		
MicroService Architecture		

The Servers deployed in IBM Watson are load balanced by default.

The performance is taken care of by IBM cloud watson platform.

Flask

SHA-256

3.

4.

Scalable Architecture

Availability

Docker

IBM watson Cloud
5.
Performance
IBM watson Cloud

Table-2: Application Characteristics: