

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

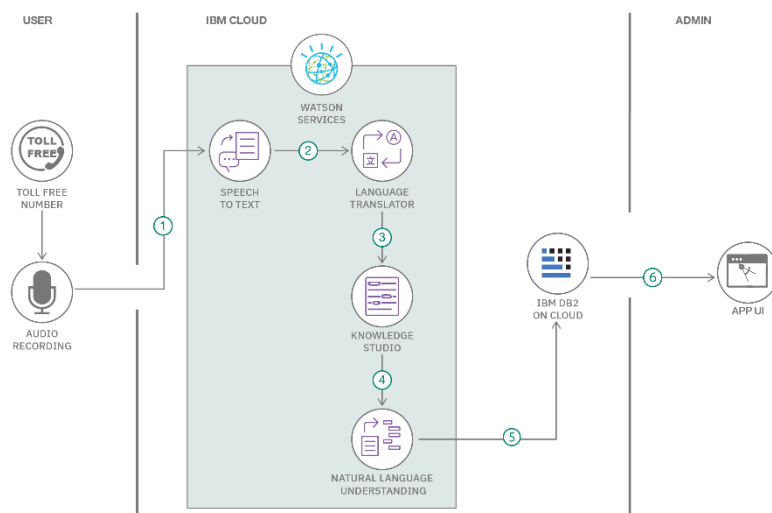
Date	03October 2022
Team ID	PNT2022TMID4963
Project Name	Project - Gas Leakage monitoring & Alerting system for Industries
Maximum Marks	4 Marks

Technical Architecture:

The Deliverable shall include the architectural diagram as below and the information as per the table 1 & 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/>



Guidelines:

1. Include all the processes (As an application logic / Technology Block)
2. Provide infrastructural demarcation (Local / Cloud)
3. Indicate external interfaces (third party API's etc.)
4. Indicate Data Storage components / services
5. Indicate interface to machine learning models (if applicable)

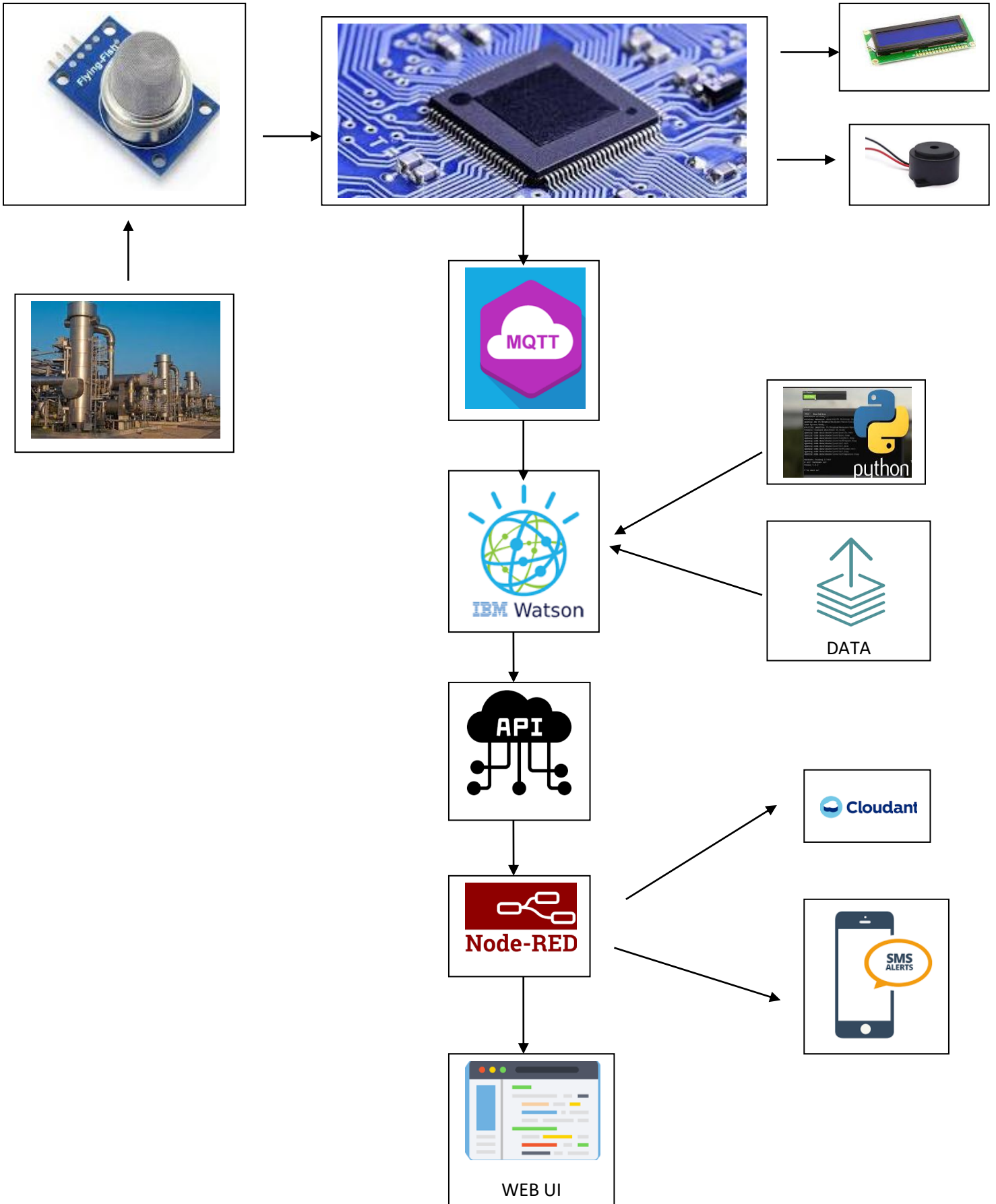


Table-1 : Components & Technologies:

S.No	Component	Description	Technology
1.	User Interface	Web UI	HTML, CSS, JavaScript / Angular Js / React Js etc.
2.	Application Logic-1	Logic for a process in the application	Python
3.	Application Logic-2	Logic for a process in the application	IBM Watson STT service
4.	Application Logic-3	Logic for a process in the application	IBM Watson Assistant
5.	Cloud Database	Database Service on Cloud	IBM DB2, IBM Cloudant etc.
6.	File Storage	File storage requirements	IBM Block Storage or Other Storage Service or Local Filesystem
7.	External API-1	Purpose of External API used in the application	IBM Weather API
8.	Infrastructure (Server / Cloud)	Application Deployment on Local System / Cloud Local Server Configuration: Cloud Server Configuration :	Local, Cloud Foundry, Kubernetes, etc.

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	NodeRed, IBM Simulator, Python	IOT
2.	Security Implementations	security / access controls implemented	Encryptions
3.	Scalable Architecture	Raspberry pi: Specifications Soc: rsbi ZERO W CPU: 32- bit computer with 1GHz ARMv6 RAM: 512 MB	IOT
4.	Availability	Gas sensor is used to measure the value of the gas emitted from the gas pipe. Through that we can send alert message.	IOT
5.	Performance	No.of Request : RPI manages to execute 129-139 read request per second. Use of Cache: 512 MB Use of CDN's: Real Time	IOT / WEB APP