

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

Date	17 October 2022
Team ID	PNT2022TMID16227
Project Name	Gas Leakage Monitoring and Alerting System for Industries
Maximum Marks	4 Marks

Technical architecture:

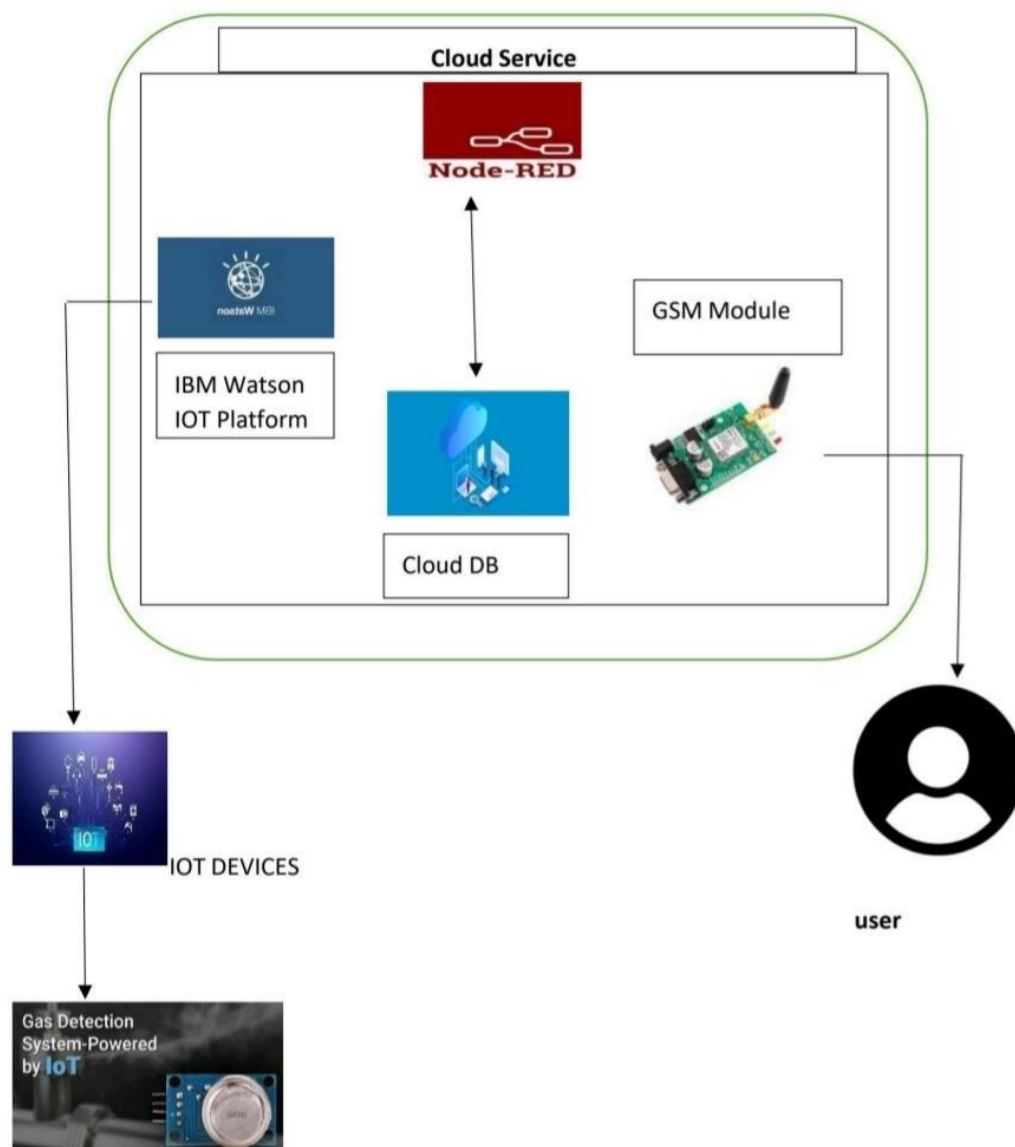


Table-1 : Components & Technologies:

S.No	Component	Description	Technology
1.	User Interface	User has to register and we can able to view the other device. ex: using web UI, mobile app etc.,	HTML, CSS, JavaScript
2.	IOT Application Logic-1	Owner's device should be connected to the system	Python
3.	IOT Application Logic-2	Owner's device should be in on Condition	IBM Watson STT service
4.	IOT Application Logic-3	If gas leakage is detected the notification message is send to the owner	IBM Watson Assistant
5.	Database	Data type can be any form such as text, User defined blob of data sent from cloud IOT core device etc.,	SQ lite, In Flux DB
6.	File Storage	File with be labelled with what they contain and how long they should be kept	IBM Block Storage or Local File system
7.	External API-1	Purpose of External API used in the device is to use the internet for communicating and conducting allotted operations efficiency.	Aadhar API, etc.
8.	Machine Learning Model	IOT and machine learning delivers insights otherwise hidden in data for rapid automated response and improved decision making	Object Recognition Model, Danger prediction Model etc.

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	Device that removes much of the manual work needed to write and configure code. It provides rapid development ,iseasy to setup and has a strong support base	IOT Zeta for nonstop streaming of detectinggas leakage level,
2.	Security Implementations	Alert notification Enabled with GPS module received in ownermobile.	e.g. SHA-256, Encryptions of data regarding gas level, firewalls, Antivirus, data loss prevention etc.,
3.	Scalable Architecture	If a problem arises owner can see the problems and check gas level simultaneously	Multiple Data store Technologies , Reliable, Micro services Automated Bootstrapping
4.	Availability	<ul style="list-style-type: none">• sensor to detect the leakage and LCD Display to show gas level• whenever the gas leakageis sensed the message is delivered to the owner	GSM module, raspberry pi
5.	Performance	<ul style="list-style-type: none">• the alert notification is sent to the owner without any delay when leakage is detected• immediate actions are taken after detection.	High durable device battery