

Project Design Phase-II

Technology Stack (Architecture & Stack)

| | |
|---------------|--|
| Date | 15 October 2022 |
| Team ID | PNT2022TMID13412 |
| Project Name | GAS LEAKAGE MONITORING AND ALERTING SYSTEM |
| Maximum Marks | 4 Marks |

Technical Architecture:

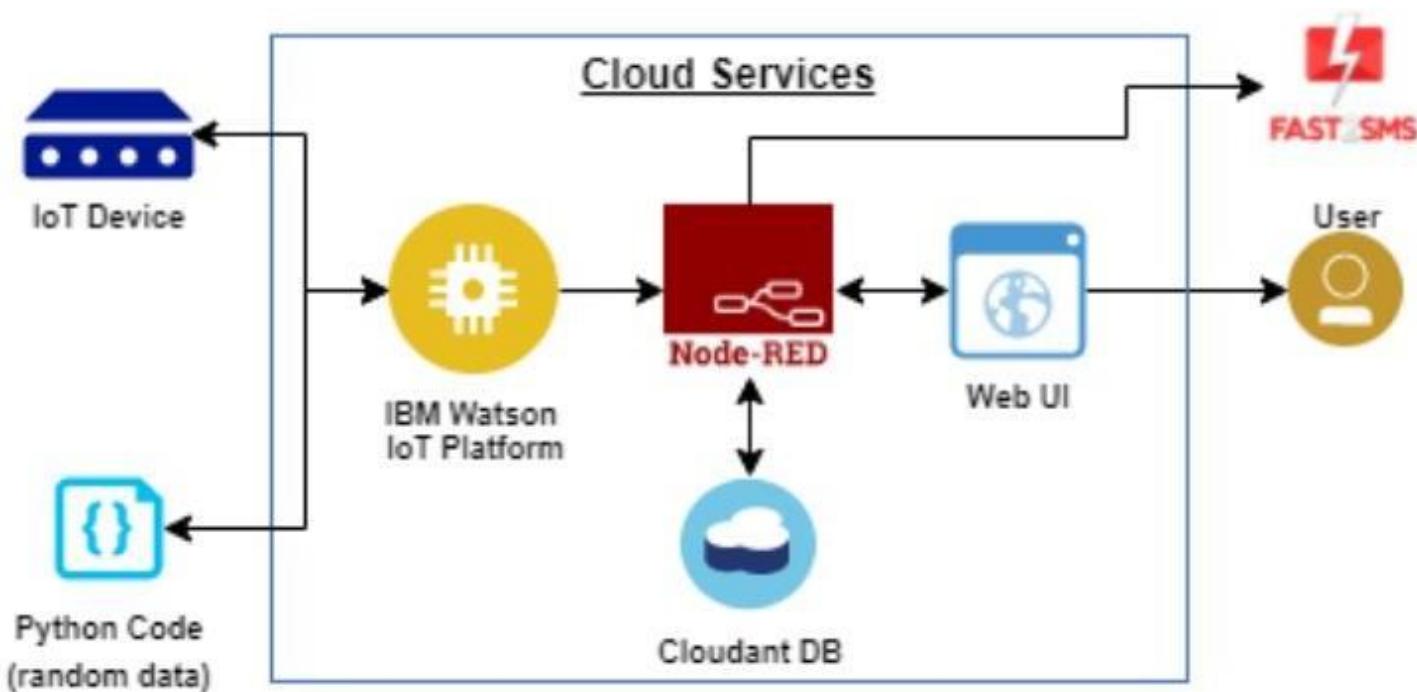


Table-1: Components & Technologies:

| S.No | Component | Description | Technology |
|------|---------------------------------|---|--------------------------------------|
| 1. | User Interface | Mobile App | IOT Platform Python |
| 2. | Application Logic-1 | Mobile App to identify the Gas leak | |
| 3. | Application Logic-2 | Gets the location of the leakage data from database | IBM Watson IoT API Call data |
| 4. | Application Logic-3 | Converts the Data into a text Notification and alert | IBM Watson Assistant |
| 5. | Database | Incident location and kind of leakage | MySQL |
| 6. | Cloud Database | Call the data IBM Cloud is used and userlogin credentials | IBM DB2, IBM Cloudant |
| 7. | File Storage | App code and IoT credentials are stored and APIkeys | IBM Block Storage |
| 8. | External API-1 | To get the status of location of gas leak | IBM box status API |
| 9. | External API-2 | To get the login credentials in IBM DB2 | Username and Password API |
| 10. | Machine Learning Model | To convert the Gas leak location and to alert for averting Incident | Notification alert |
| 11. | Infrastructure (Server / Cloud) | To host the server and application | Cloud Foundry, Node Red |

Table-2: Application Characteristics:

| S.N o | Characteristics | Description | Technology |
|----------|--------------------------|---|--------------------------------|
| 1. | Open-Source Frameworks | To develop the application interface, we use IOT Device | IOT Device |
| 2. | Security Implementations | To secure the users login credentials and personal information | IBM Watson IOT platform |
| 3. | Scalable Architecture | To scale the application database | IBM Auto scaling |
| 4. | Availability | To make use the application and data are available 24/7 | IBM Cloud load balancer |
| 5. | Performance | To increase the performance the application is hosted in the high-performance instance | IBM instance |