

IBM Cloud Services

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Project Name: Gas leakage monitoring and Alerting system

Basic knowledge of the following cloud services:

- IBM Watson IoT Platform
- Node-RED Service

IBM Watson IoT Platform:

IBM Watson IoT Platform connects devices, ingests device data, and transforms that data into meaningful insights. Watson IoT Platform and its additional add-on services enable Clients to capture data for devices, equipment, and machines, explore this data, and discover insights on it that drive better decision-making. Watson IoT Platform provides a pre-integrated foundation for industry solutions and Client applications built on IoT data.

IBM Watson IoT Platform is made up of three fundamental services:

Connection Service, Analytics Service, and Blockchain Service. All three services have a nonproduction package for proofs of concept and pilot work, as well as a production package for full production deployment.

IBM Watson IoT Platform Connection Service capabilities include:

- Connection of a wide spectrum of IoT devices
- IoT device registration and management

- User Registration, setup, and authentication
- Ability to create alerts
 - Security with TLS authentication support, the access control group for devices & gateways
- Data Lifecycle Management
- Solution administration for deployment and device groupings Additionally:
- Analytics Service enables to enrich, augment, and interaction with raw data
- Blockchain in Service enables us to connect with Blockchain-enabled networks.

Node-RED Service:

Node-RED is a flow-based visual programming tool developed originally by IBM for wiring together hardware devices, APIs, and online services as part of the Internet of Things. Node-RED provides a browser-based flow editor, which can be used to create JavaScript functions. Elements of applications can be saved or shared for reuse. The runtime is built on Node.js. The flows created in Node-RED are stored using JSON. Since version 0.14, MQTT nodes can make properly configured TLS connections.