# BASIC KNOWLEDGE ABOUT CLOUD SERVICES

IBM WATSON IOT PLATFORM:

It is a powerful web dashboard. Flexible, scalable and easy to use. It provide a clean and simple UI where you can simply and easily add and manage your devices, control access to your IoT service, and monitor your usage. See at a glance the things you are interested in.

#### **Device Management**

Using our device management service, you can perform device actions like rebooting or updating firmware, receive device diagnostics and metadata, or perform bulk device addition and removal.

# Responsive, scalable connectivity

We use the industry-standard MQTT protocol (OASIS ratified) to connect devices and applications. MQTT is designed for efficient exchange of data to and from devices in real-time.

#### **Secure Communication**

Securely receive data from and send commands to your devices. Do this using MQTT with TLS to secure all communication between your devices and our service.

# **Data lifecycle management**

As well as having access to real-time data coming from your devices, you can opt to store data for a period of your choice, allowing you to have access to historical and real-time data for your devices.

## **NODE-RED SERVICE:**

Node-Red is a programming tool for wiring together hardware devices, API'S and online services in new and interesting ways. It provides a browser based editor that makes it easy to wire together flows using wide range of nodes in its palette that can be deployed to its runtime.

#### Browser based flow editing:

Node-Red provides a browser based flow editor that makes it easy to wire together flows using wide range of nodes in its palette. Java script functions can be created within the editor using a rich text editor. A built in library allows you to save useful function templates or flows for reuse.

### Build on node.js:

The eight weight runtime is built on node.js taking full advantages of its event driven ,non-blocking model. This make it's ideal to run at the edge of the network on low-cost hardware such as raspberry pi as well as in the cloud.

# **Social development:**

The flows created in Node-Red are stored using JSON which can be easily imported and explored for sharing with others. An online flow library allows you to share you best flows with the world.

## IBM CLOUDANT

IBM cloudant is a filly managed ,distributed database optimized for heavy workloads and part .Growing web and mobile apps ,IBM cloudant scales throughput and storage and its API and replication protocols are compatible with apache CouchDB for hybrid or multi cloud architecture.

#### Serverless web app and API:

It will create a serverless web application by having static website content on github pages and implementing the application back-end, using IBM cloud applications mobile app with serverless. It uses IBM cloud functions along with cognitive and data services to build a serverless back end for a mobile app.

#### Find Anomalier in IOT data:

It sets up an IOT devices and gather data in IBM Watson IOT platform. IT will create visualizations and use advanced ML services to analyze historical data and detect anomalier.

### **Open Hybrid Multicloud:**

It shows hoe to pair the API and powerful replication protocol of cloudant with Apache clouchDB in a hybrid cloud environment.