

## BASIC Knowledge ABOUT cloud Service IBM Watson IOT platform.

It is a powerful web dashboard, Flexible, scalable and easy to use. It provides a clean and simple UI where we can simply and easily add and manage devices, control access to IOT service, monitor the usage. It's fully managed cloud-hosted service that is designed to simplify and derive value from IOT device.

### Device Management:

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

### Responsive, Scalable Connectivity :-

It uses the industry standard MQTT protocol to connect device and applications. MQTT is designed for efficient exchange of data from device 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 services.

### Data Lifecycle management :-

Having access to real-time data coming from our device, you can opt to store data for a period of our 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, APIs 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 the palette.

JavaScript functions can be created within the editor using a rich text editor.

A built in library allows you to save useful function templates (or) flow for reuse.

### Built on Node - js :-

The lightweight runtime is built on Node js taking full advantage of its event driven non-blocking node js. This makes it 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 exported for sharing with others.



An online flow library allows you to share your best flows with the world.

### IBM cloudant.

IBM cloudant is a fully managed, distributed database optimized for heavily workloads and fast growing web and mobile apps, IBM cloudant is available as an IBM cloud service with a 99.99% SLA. cloudant elastically scales throughput and storage, and its API and replication protocols are comparable with Apache Couch DB for hybrid or multcloud architecture.

### Serverless web app and API.

It'll create a serverless web application by hosting static website content on github pages and implementing the application link end, using IBM cloud Application.

### Mobile App with Serverless:-

It uses IBM cloud functions along with cognitive and data service to build a serverless back end for a mobile app.

### Find Anomalies in IOT Data:-

It sets up an IOT device and gathers data in IBM Watson IOT platform. It will create visualizations and use advanced ML services to analyze historical data and alter anomalies.

### Open Hybrid Multicloud:-

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