# Internet of Things using Watson IoT Platform

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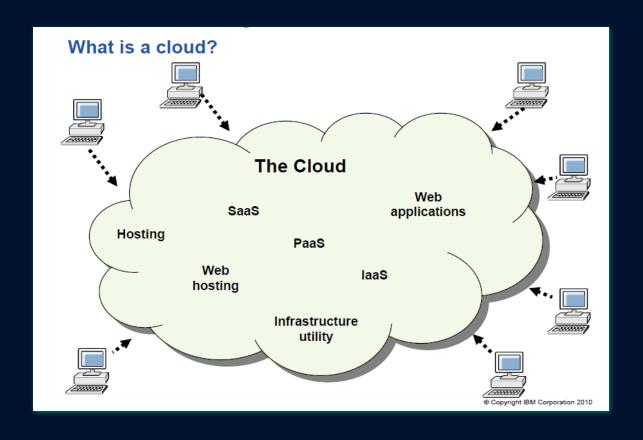


- Cloud Fundamentals
- Cloud Services Models
- Introduction to IoT
- IoT Use Cases
- Watson IoT platform
- Node-RED
- Demo

# Cloud



### What is Cloud?



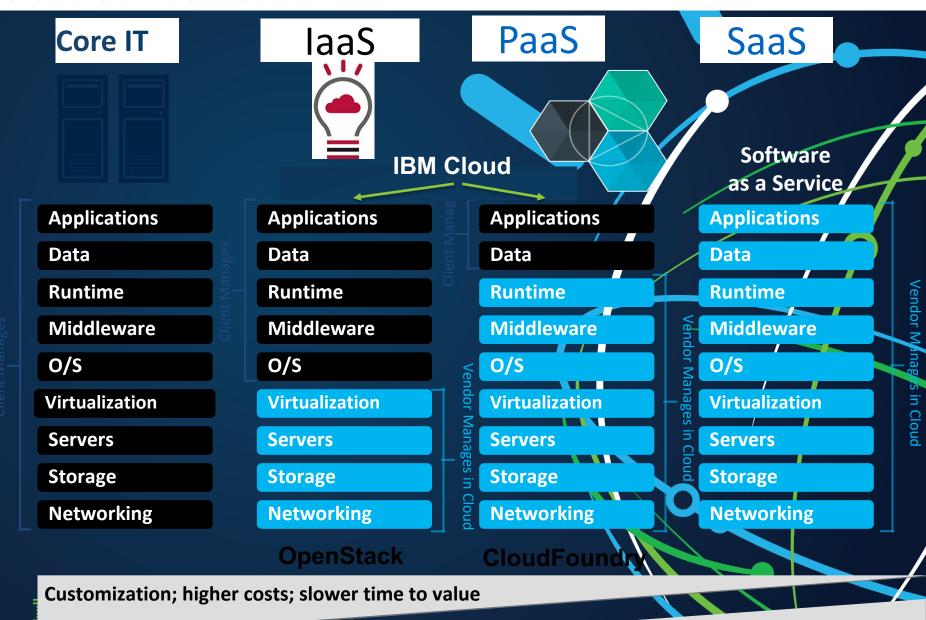
#### What is Cloud?

A Network that delivers requested virtual resource as a service

#### What is Cloud Computing?

It is a model for enabling convenient, on-demand network access to a shared pool of configurable computing resources (for example network, servers, storage, applications and services) that can be rapidly provisioned with minimal management effort or service provider interaction

#### **Cloud Service Models**



Standardization; lower costs; faster time to value



#### Demo

- IBM Cloud Registration
- Walk through of IBM Cloud
- Creating a sample service on IBM Cloud



- Internet of Things

#### Internet of Things (IoT)





The Internet of Things is a NETWORK of SENSORS where data is exchanged, using connectivity protocals, with systems.

Exchange of data can be bi directional between sensors and systems.

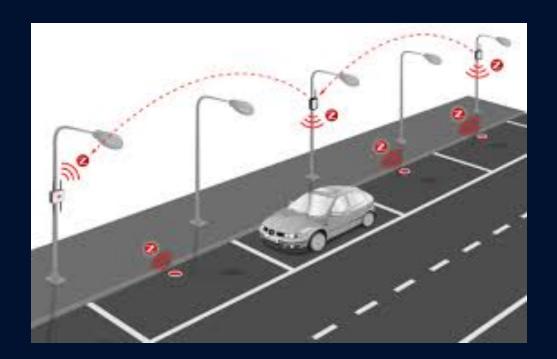


# **IoT** Use Cases



# **Smart Parking:**

Monitoring of parking spaces available in the city





### **Waste Management:**

Detection of rubbish levels in containers to optimize the trash collection routes.





#### **Health Care:**

Monitoring of conditions of patients inside hospitals and in old age homes.





#### Retail:

IoT is going to use very much in retail in future.

- NFC Payment
- Intelligent Shopping Applications
- Smart Product Management









- Watson IoT platform



# With Watson IoT platform you can connect, manage and secure IoT

- Use the power of cognitive
- Connect 'things' easily
- Manage and integrate data
- Keep your IoT secure

# **Node-RED**



- It is a flow-based programming language
- Developed by IBM
- It is built on Node.js
- Popular tool for wiring Internet of Things
- Browser based flow editor
- Contains variety of Nodes
  - . Input
  - . Output
  - . Functions
  - . Social
  - . Storage
  - . Watson...etc

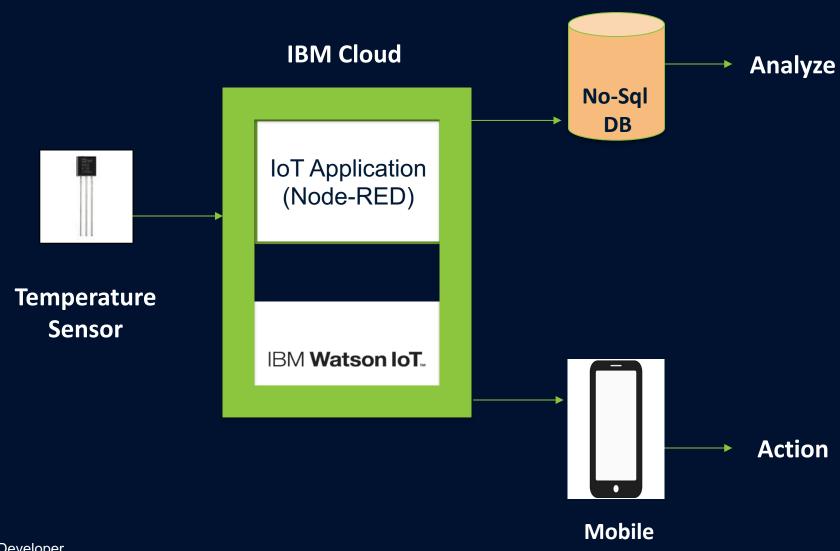




#### Demo

### **Climate Change Alert**





#### IBM

#### Steps to perform Hands-on

- Step 1: Create a Node-Red Application.
- Step 2: Create IoT Platform service.
- Step 3: Create a device in IoT Platform service.
- Step 4: Apply above created device credentials to Watson IoT simulator.
- Step 5: Do data modification and observe the data flow in Watson IoT Platform.
- Step 6: Access the device data into Node-Red application.
- Step 7: From Node-Red send device data to Cloudant database for reference.
- Step 8: From Node-Red send device data to Twilio node for push notification.



#### **Thank You**

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