

Practical no: 10

Title: Create a small dashboard application to be deployed on cloud. Different publisher devices can publish their information and interested application can subscribe

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ESTOT

Practical 10

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Aim:

Create a small dashboard application to be deployed on cloud. Different publisher devices can publish their information & interested application can subscribe.

Theory

IOT platforms

The IOT Platforms are suite of components those help to setup and manage the internet connected devices. A person can remotely collect data monitor and manage all internet connected devices from a single system. There are a bunch of IOT platforms available online but building an IOT solution for a company is all depend on IOT platform host & support quality.

IOT Cloud Platform -

- 1> Kaa IOT Platform
- 2> Sitewhere : Open platform for IOT.
- 3> Thingspeak: An open IOT platform with MATLAB
- 4> DeviceHive: IOT Made Easy
- 5> Zetta: API- First IOT Platform

ES&IOTL

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Analytics



MATLAB Analysis

Explore and transform data.



MATLAB Visualizations

Visualize data in MATLAB plots.



Plugins

Display data in gauges, charts, or custom plugins.

Actions



ThingTweet

Connect a device to Twitter™ and send alerts.



TweetControl

Listen to the Twitterverse and react to tweets.



TimeControl

Automatically perform actions at predetermined times with ThingSpeak apps.



React

React when channel data meets certain conditions.



TaskBack

Queue up commands for your device.



ThingHTTP

Directly device communication with web services and APIs.

IaaS features -

- 1> Manage an unlimited platform no. of connected devices.
- 2> Platform real-time device monitoring.
- 3> Collect and analyze sensor data.

Sitewhere features -

- 1> Spring delivers the core configuration framework.
- 2> Default database storage is MongoDB.
- 3> HBase for non-relational data store.

Thingspeak features -

- 1> Collect data in private channels.
- 2> MATLAB analytics and visualizations.
- 3> Worldwide community.

DeviceHive features -

- 1> Directly integrate with alexa.
- 2> Connect any device via REST API, Websockets.
- 3> Visualization dashboard of your choice.

Zetta features -

- 1> Built around Node.js, REST, Websockets.
- 2> Supports wide range hacker boards.
- 3> Zetta allows you to assemble smartphone apps, device apps, cloud apps.

Conclusion -

Thus, we have designed small application using Thingspeak