

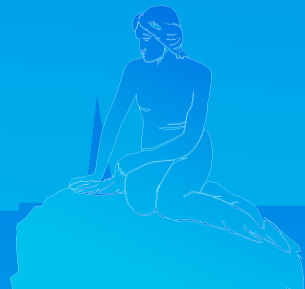
IoT and NoSQL

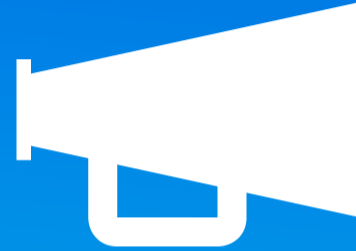
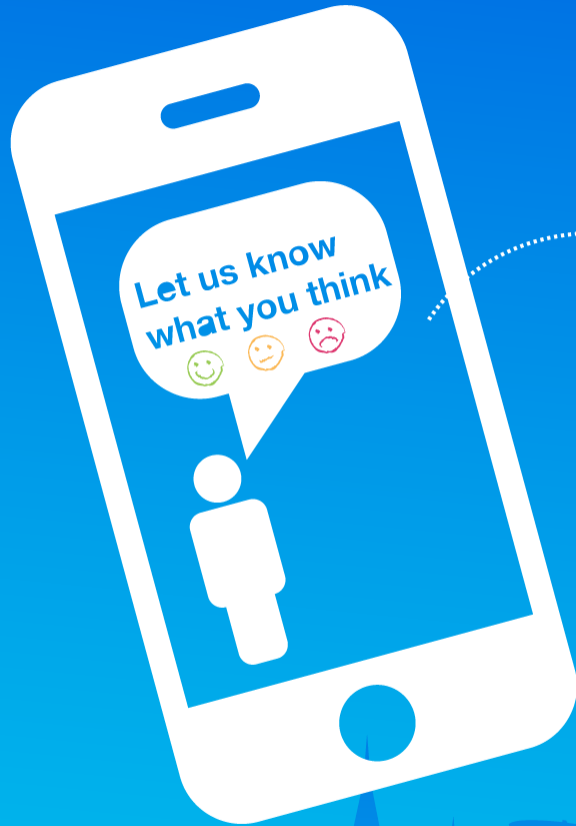
Offline-first sensors

Glynn Bird – Developer Advocate – IBM Cloud Data Services
6th October 2015

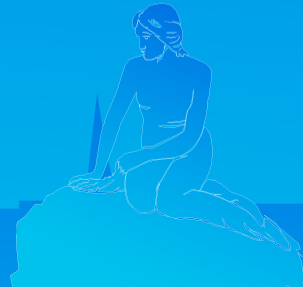


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**Click 'engage'
to rate sessions
and ask questions**



What is IoT?

IoT – The Internet of Things

**“Internet of Things Installed Base Will
Grow to 26 Billion Units By 2020”**

Gartner 2013 - <http://www.gartner.com/newsroom/id/2636073>



Investment



<http://iot-analytics.com/top-20-iot-companies-q2-2015/>



Industry Sectors



<http://www.theglobeandmail.com/report-on-business/rob-magazine/the-future-is-smart/article24586994/>



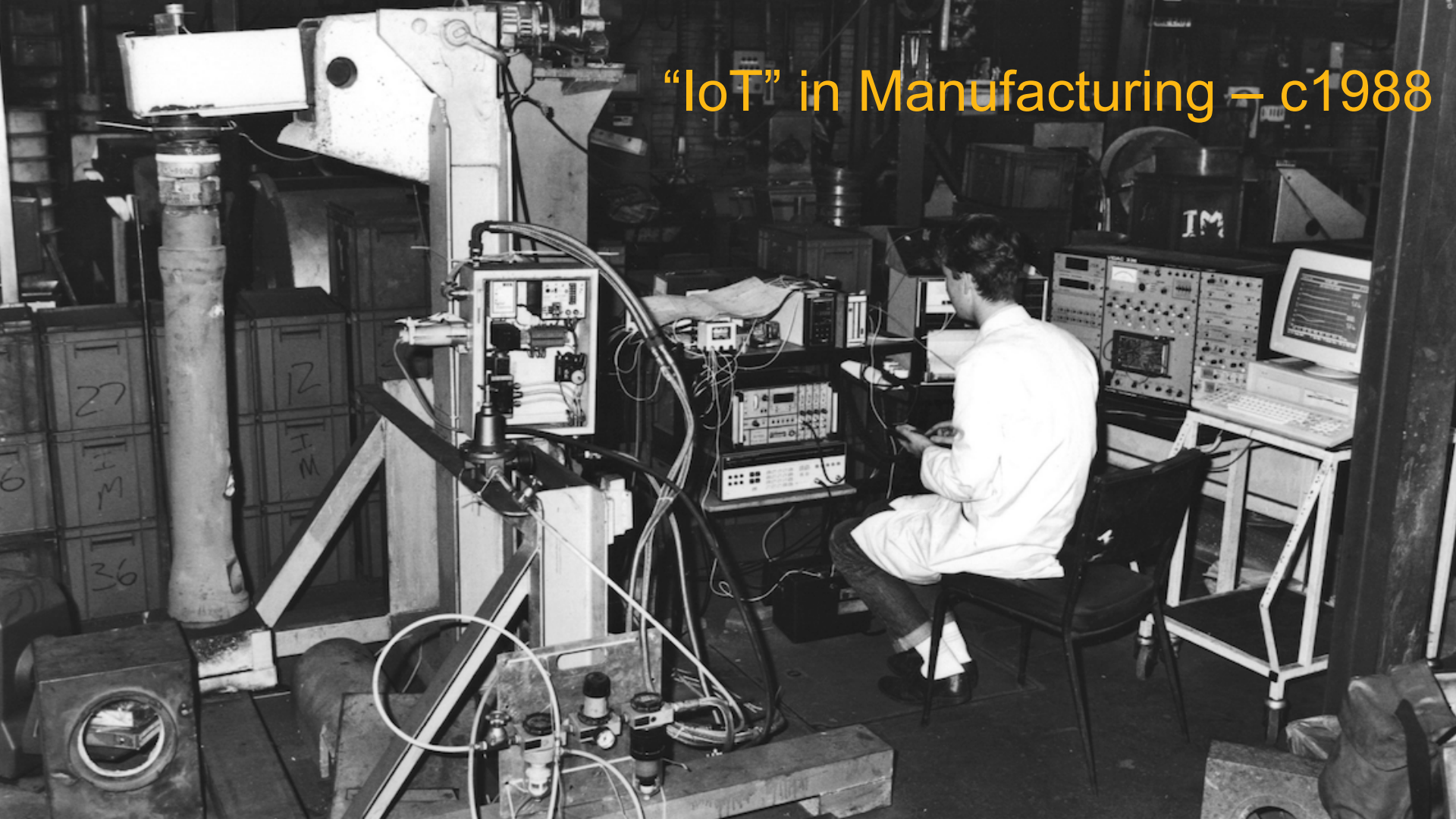
Is this IoT?

An interactive game for 1 to 200 people



Domestic Gas Meter

"IoT" in Manufacturing – c1988

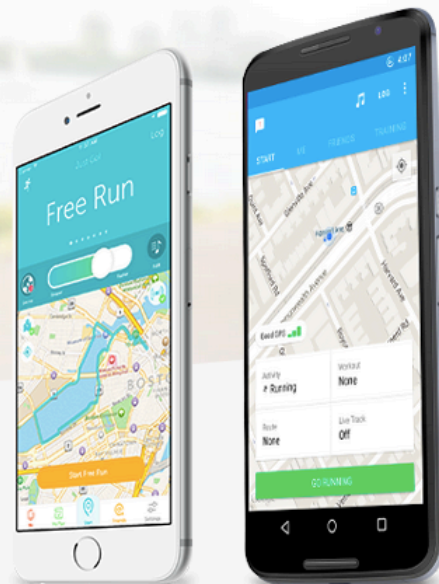


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[Sign up, it's free!](#)



Runkeeper



Relax, we've got you covered.

We recommend finding a trained Nest Pro to install the Nest Learning Thermostat for you. A professional will ensure that Nest is installed in the right location, attach the Heat Link and start setup. [Find a local Nest Pro >](#)



Nest is compatible with almost all central-heating systems.

[See if it will work in your home >](#)

Nest





What Hue does



Philips Hue

IoT Definition

- Sensors(s) and/or Actuator(s)
- Internet connection
- A means of consuming the data
- Optional feedback and composability





Joey Khalid

@JoeyKhalid



Follow

Living the #AutomatedLife: turn off my
@TweetHue bulbs when I set my @Nest
Thermostat to Away!

RETWEETS

6

FAVORITES

6



9:38 AM - 9 Jul 2015





MQTT

Message Queue Telemetry Transport

- Small code footprint, low bandwidth TCP protocol
- Invented by IBM in 1999
- Pubsub protocol





Vala Afshar ✓

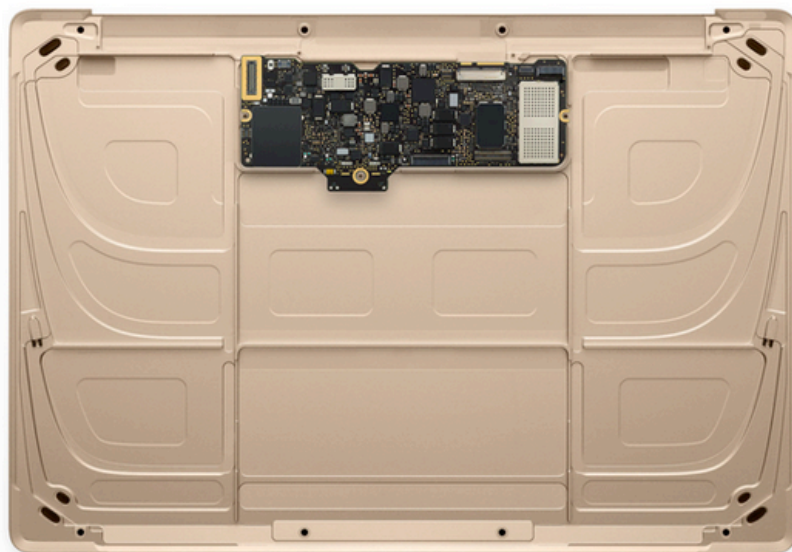
@ValaAfshar



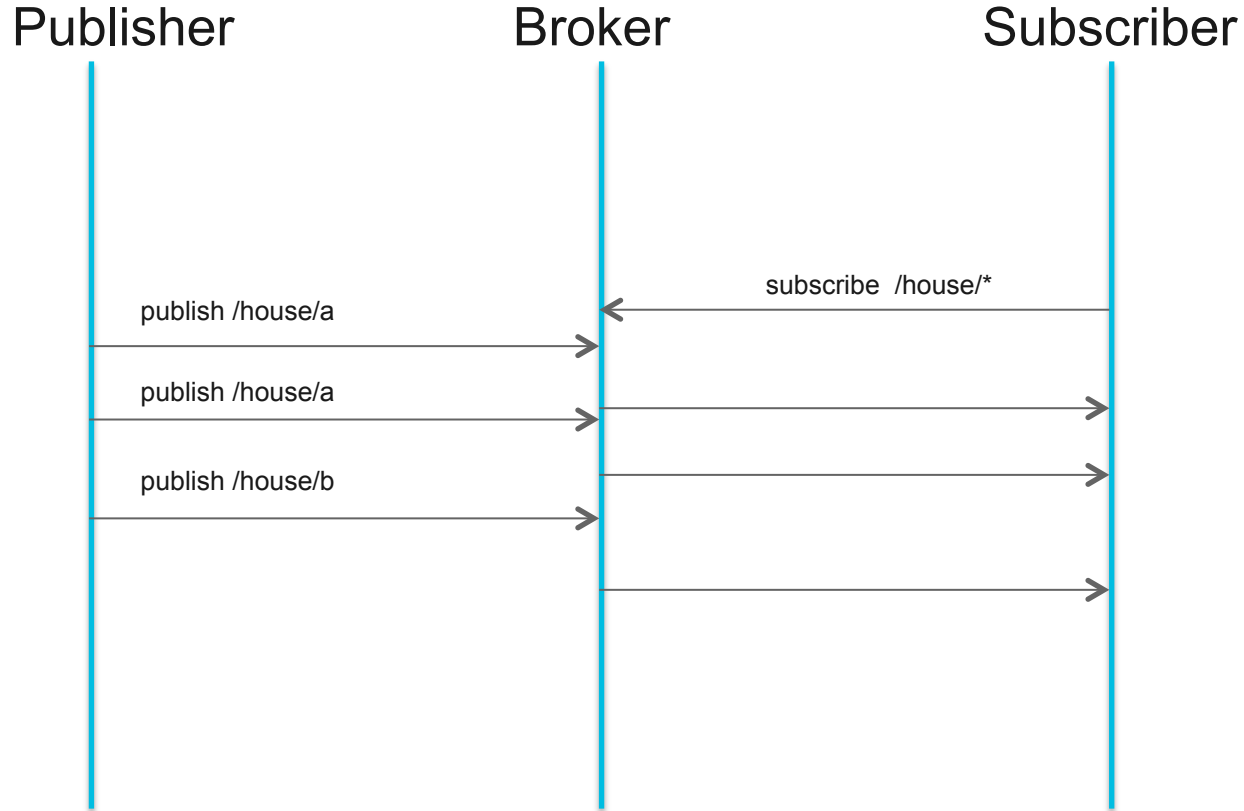
Follow

Inside a new Macbook without the batteries.

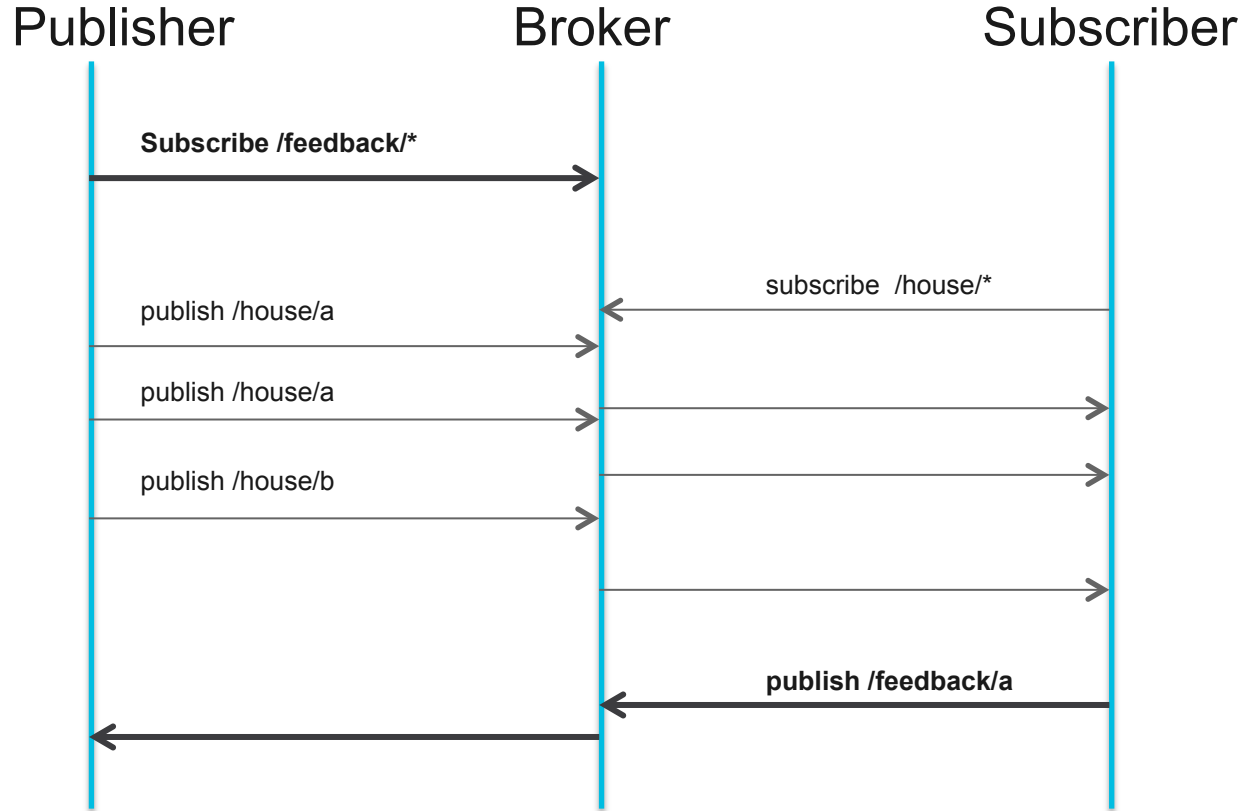
@HalfPics



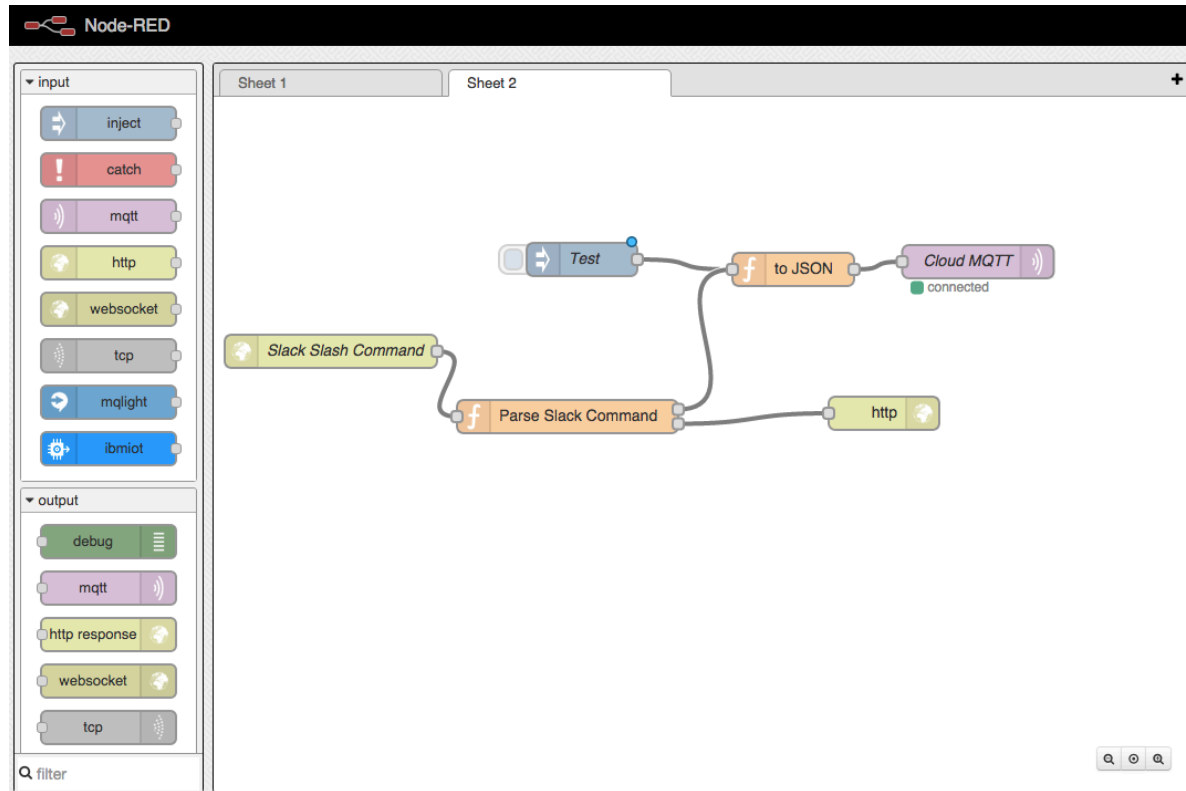
Pubsub



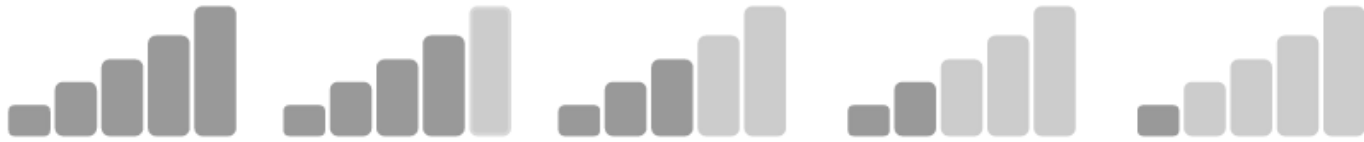
Pubsub



Node-RED



Offline, online or somewhere in-between?



Offline-first with IBM Cloudant

An alternative to MQTT for IoT

IBM Cloudant – what is it?

- Apache CouchDB
 - NoSQL JSON documents
 - HTTP API
 - Replication
- Clustering
- Indexing
 - MapReduce
 - Lucene free-text
 - MongoDB-style queries
- Run a-a-S



IBM Cloudant®



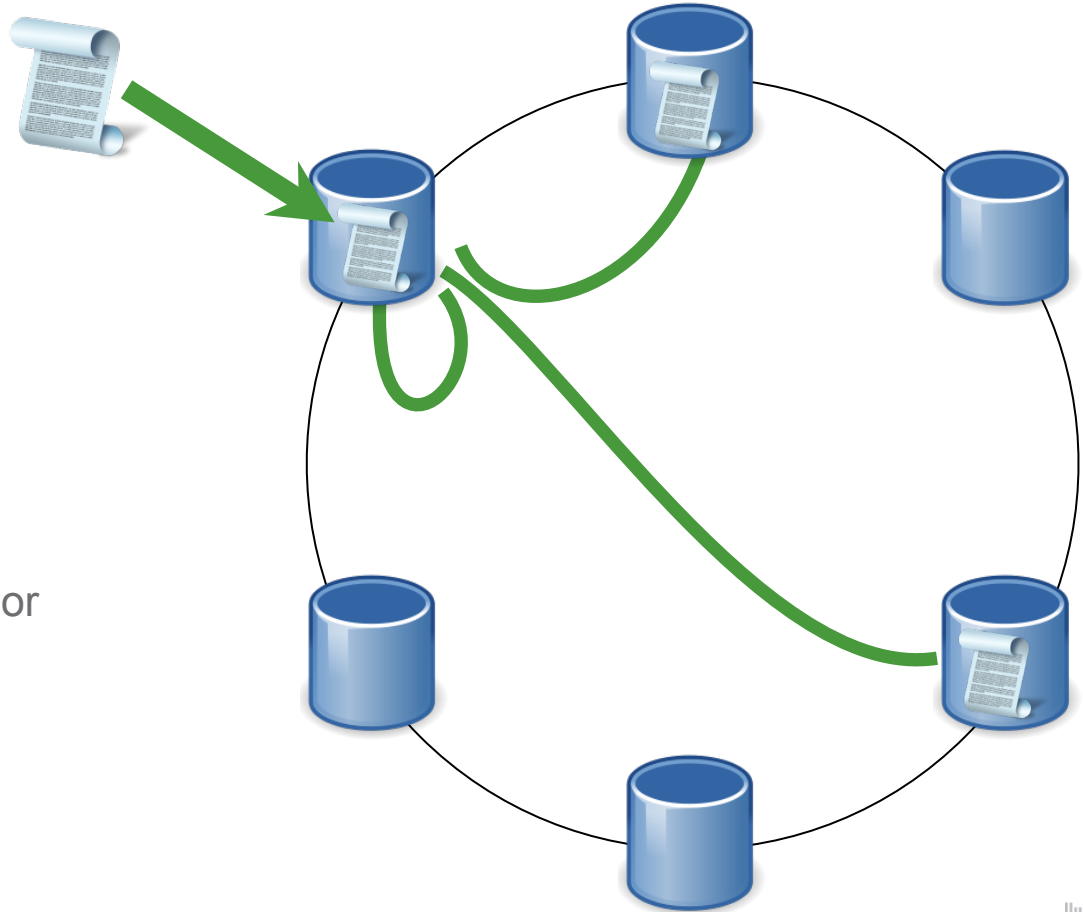
IBM Cloudant

- Globally distributed data layer for web and mobile applications
- Advanced geospatial capabilities



IBM Cloudant

- Cloudant is distributed database
- 3 copies of each document
- highly available
- fault tolerant
- add nodes to increase data volume or user concurrency



IBM Cloudant Replication



IBM Cloudant Replication



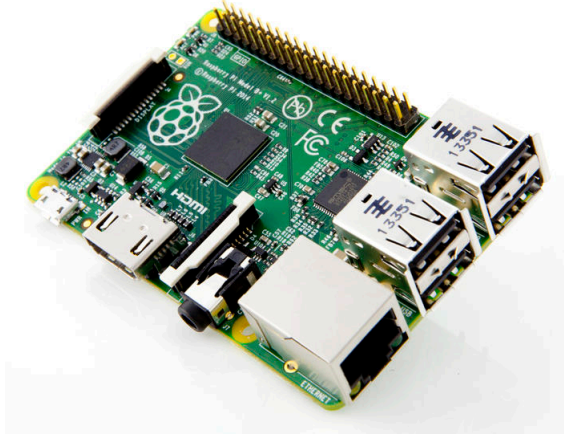
IBM Cloudant Replication



IBM Cloudant Replication



Temperature monitoring



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