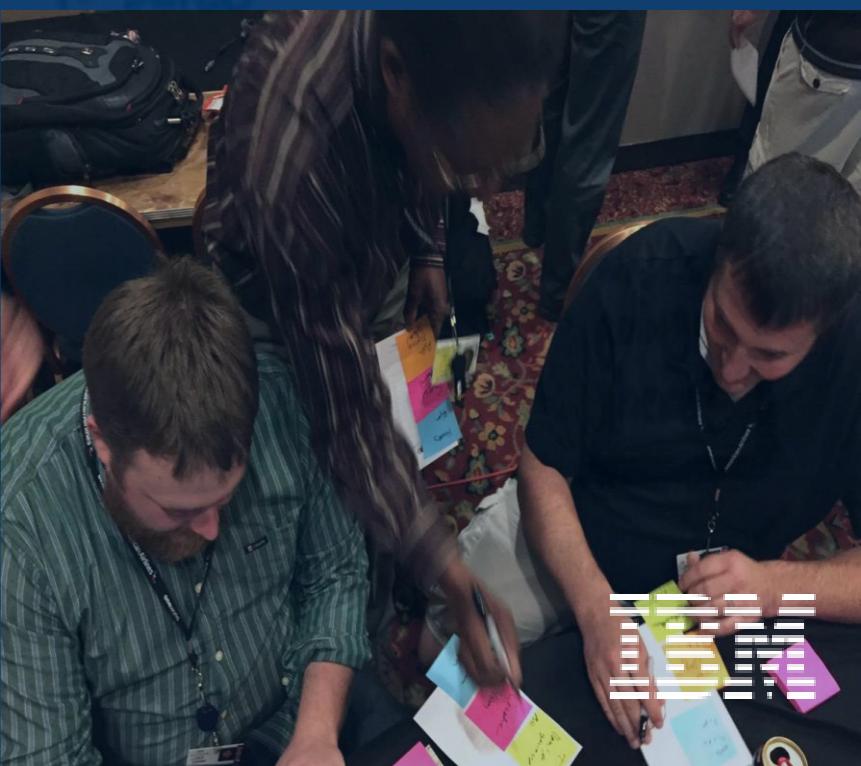
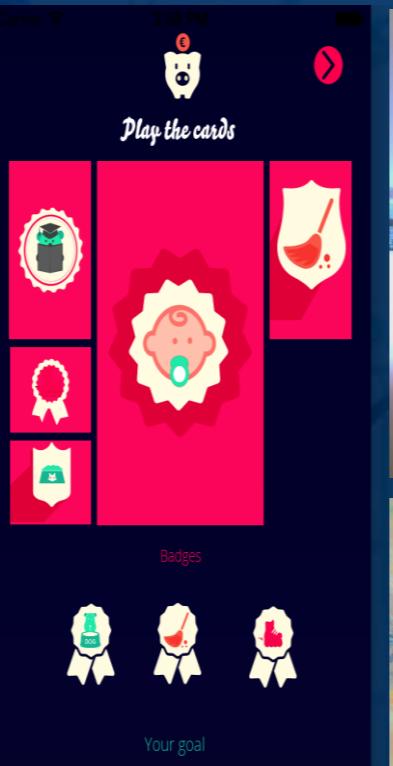


# #\_hackNEXT

Webinar: Introduction to Bluemix

Andreas Entgelmeier – Bluemix Specialist, IBM

17. March 2017



IBM

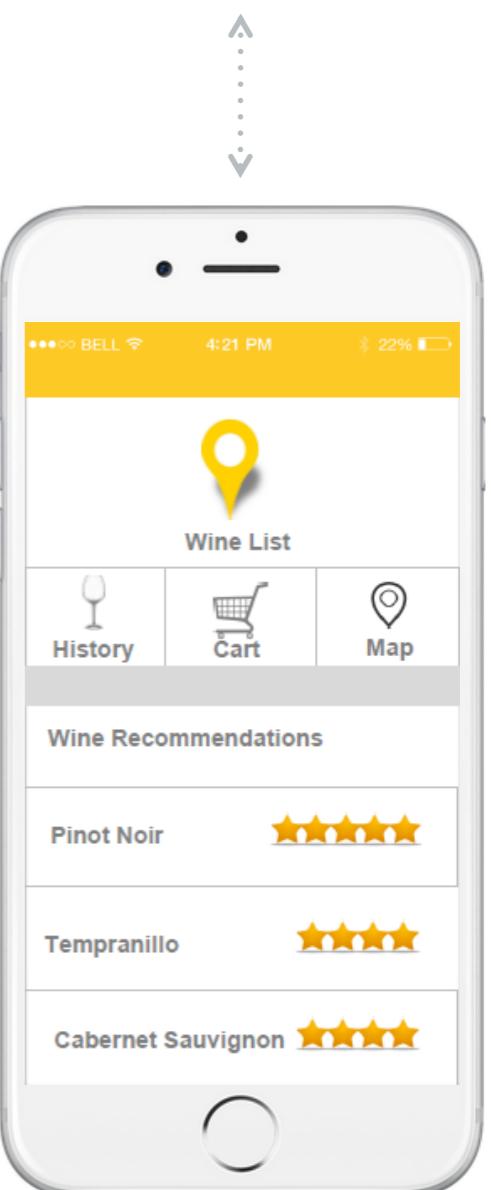
# Agenda

- Bluemix Overview
- Demo
- Some Hints for the Hackathon
- What to prepare?

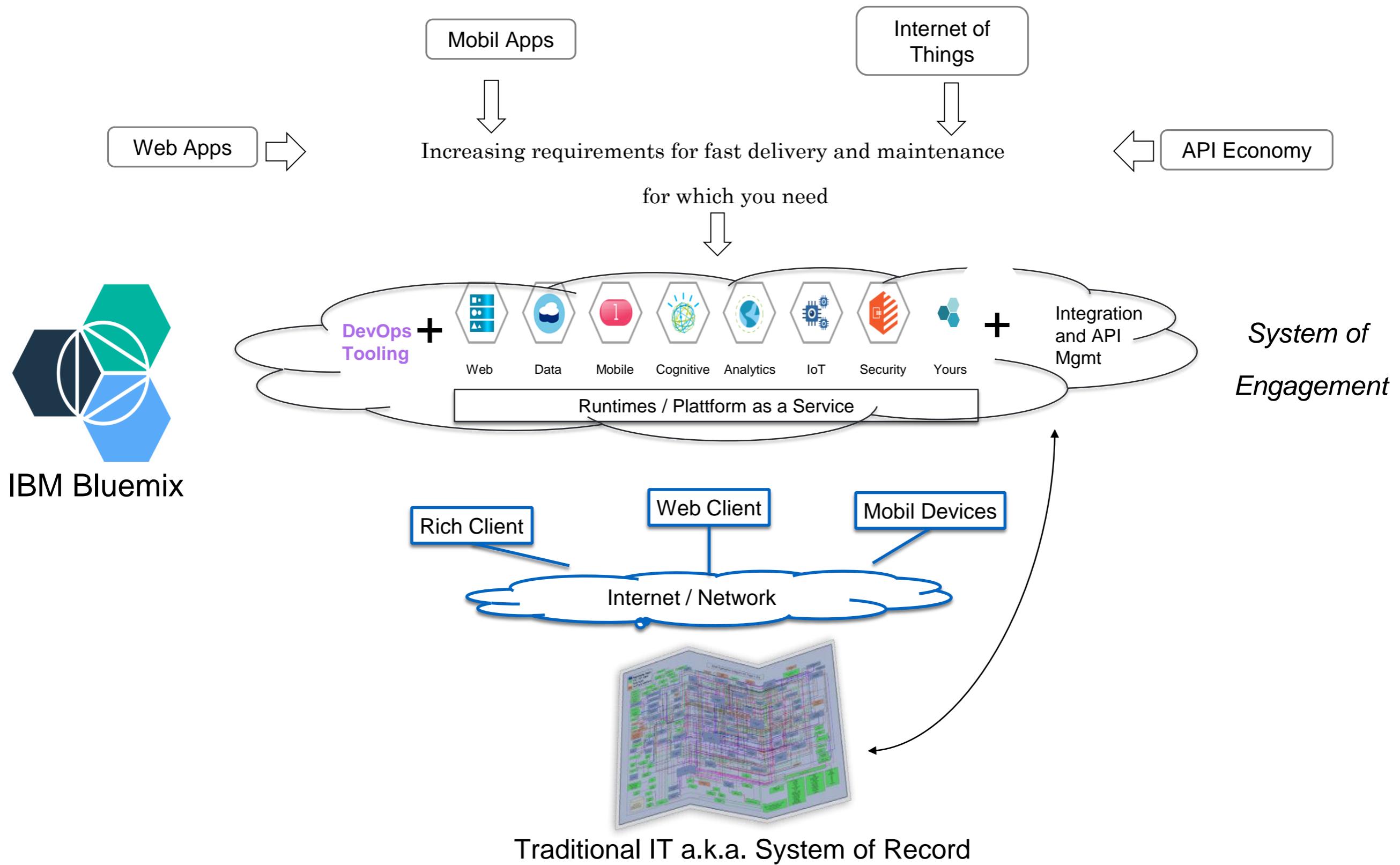
# To really disrupt, a business should focus on building differentiation and rent the rest

Devs can quickly compose apps with new APIs and digital services to add features and increase engagement in areas like:

- Analytics, cognition
- Mobile, location
- Internet of Things
- Social engagement
- Identity
- Reviews
- Travel
- Messaging
- ...
- His/her company's private APIs and services



# Where does IBM Bluemix fit into the big picture?



# Bluemix – a flexible Mix of PaaS and IaaS Concepts

- Customer Managed
- Service Provider Managed



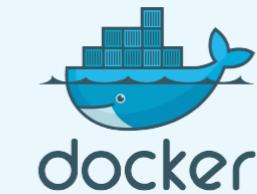
## Infrastructure as a Service

Code
Data
Runtime
Middleware
OS
Virtualization
Servers
Storage
Networking

## Platform as a Service

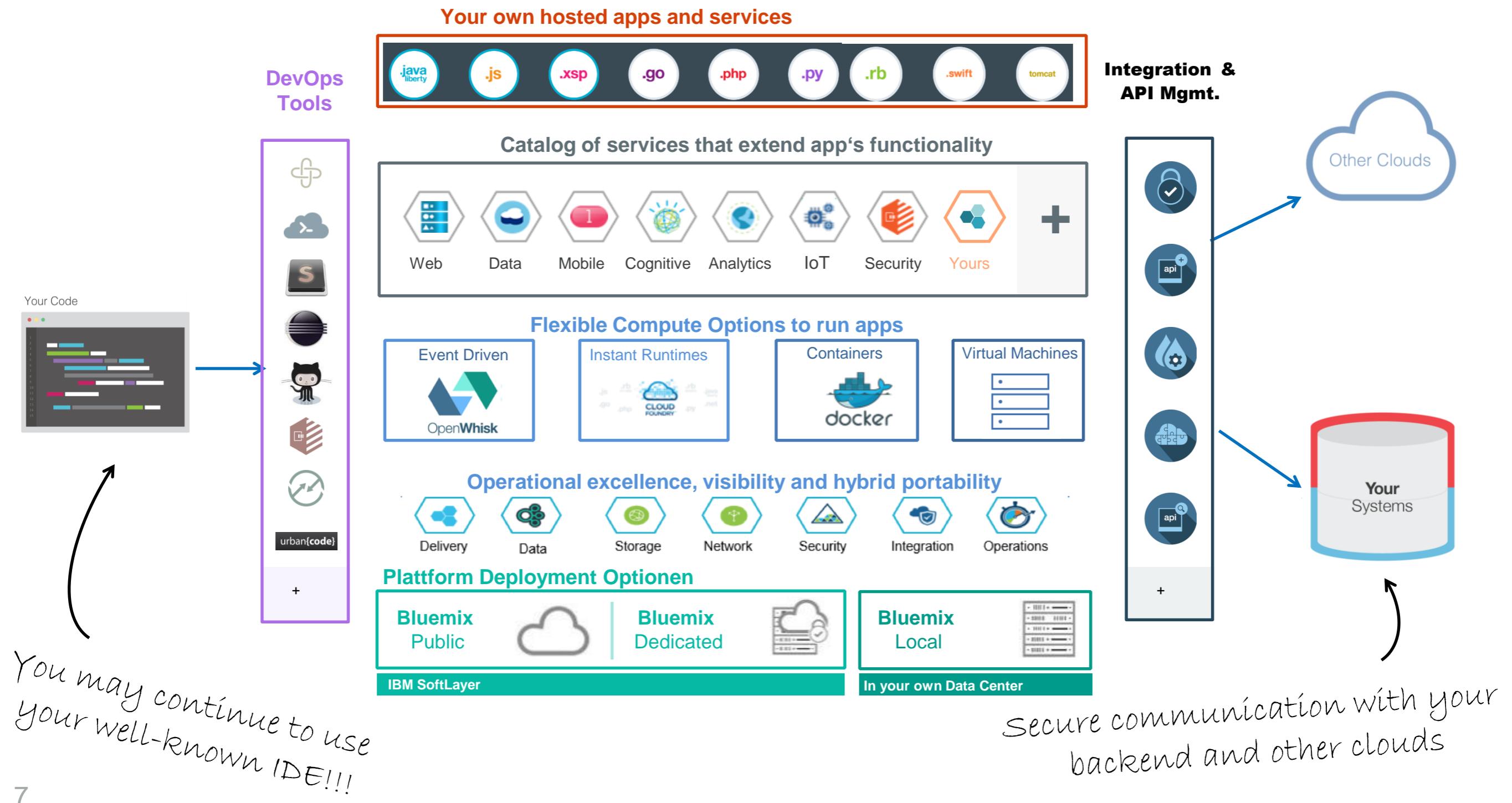
Code
Data
Runtime
Middleware
OS
Virtualization
Servers
Storage
Networking

Built on open technologies:



# Bluemix in a Nutshell

Bluemix is underlined by four key open compute technologies: **Cloud Foundry**, **Docker**, **OpenStack**, and **OpenWhisk**. It extends each of these with a growing number of **services**, robust **DevOps tooling**, **integration** capabilities, and a **seamless developer experience**.



# Bluemix – Services



... and then the client shall be notified via her mobile phone ...

Ah, there is a Mobile Push Service in Bluemix

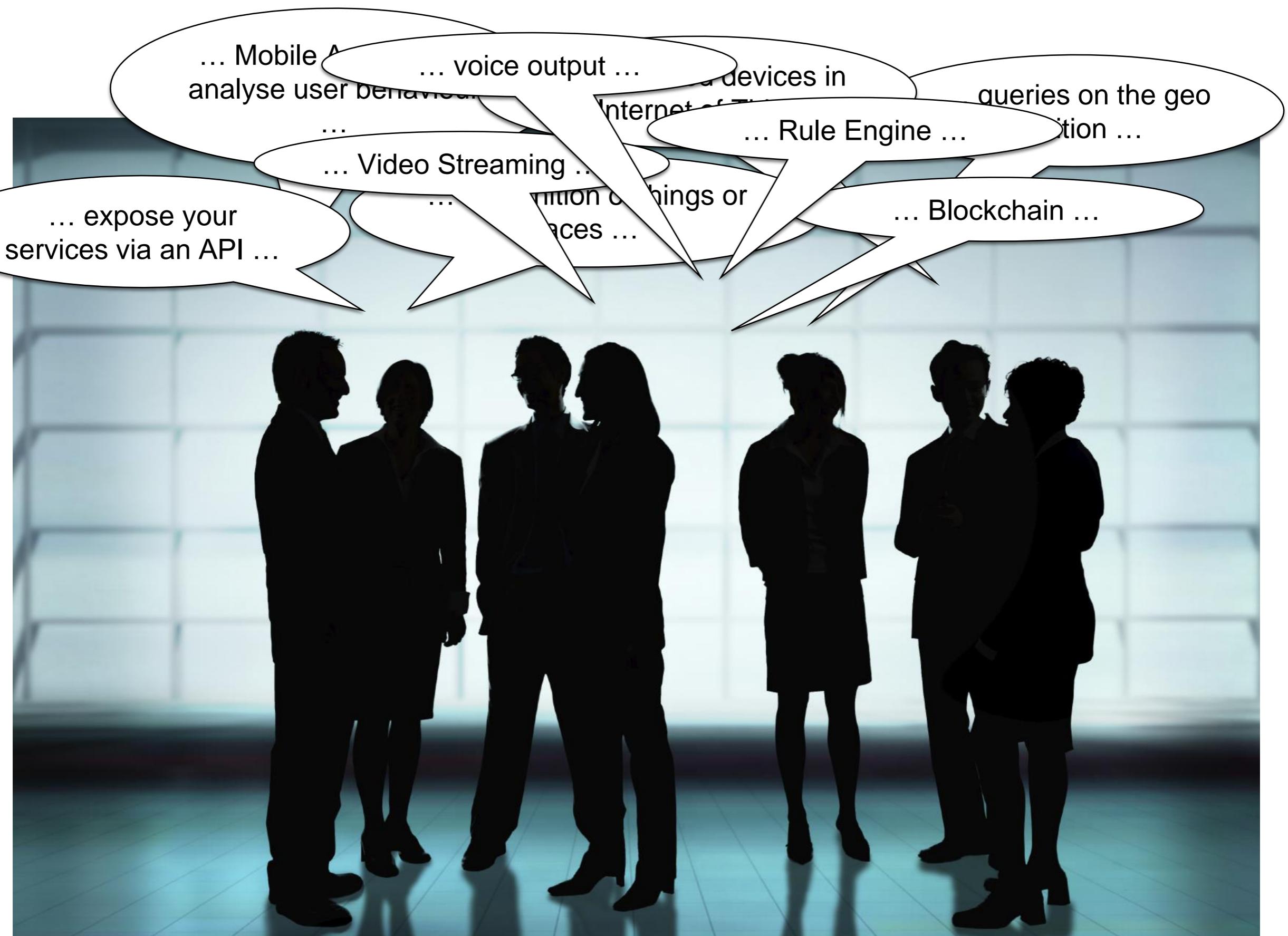
# Bluemix – Services



# Bluemix – Services



# Bluemix – Services



# Watson Developer Cloud is available as a set of services, providing cognitive computing via APIs on Bluemix



## Language

- Conversation
- Natural Language Classifier
- AlchemyLanguage
- Language Translation
- Retrieve and Rank
- Document Conversion
- Tone Analyzer
- Personality Insights

## Data Insights

- Discovery
- AlchemyData News
- Tradeoff Analytics

## Speech

- Speech to Text
- Text to Speech

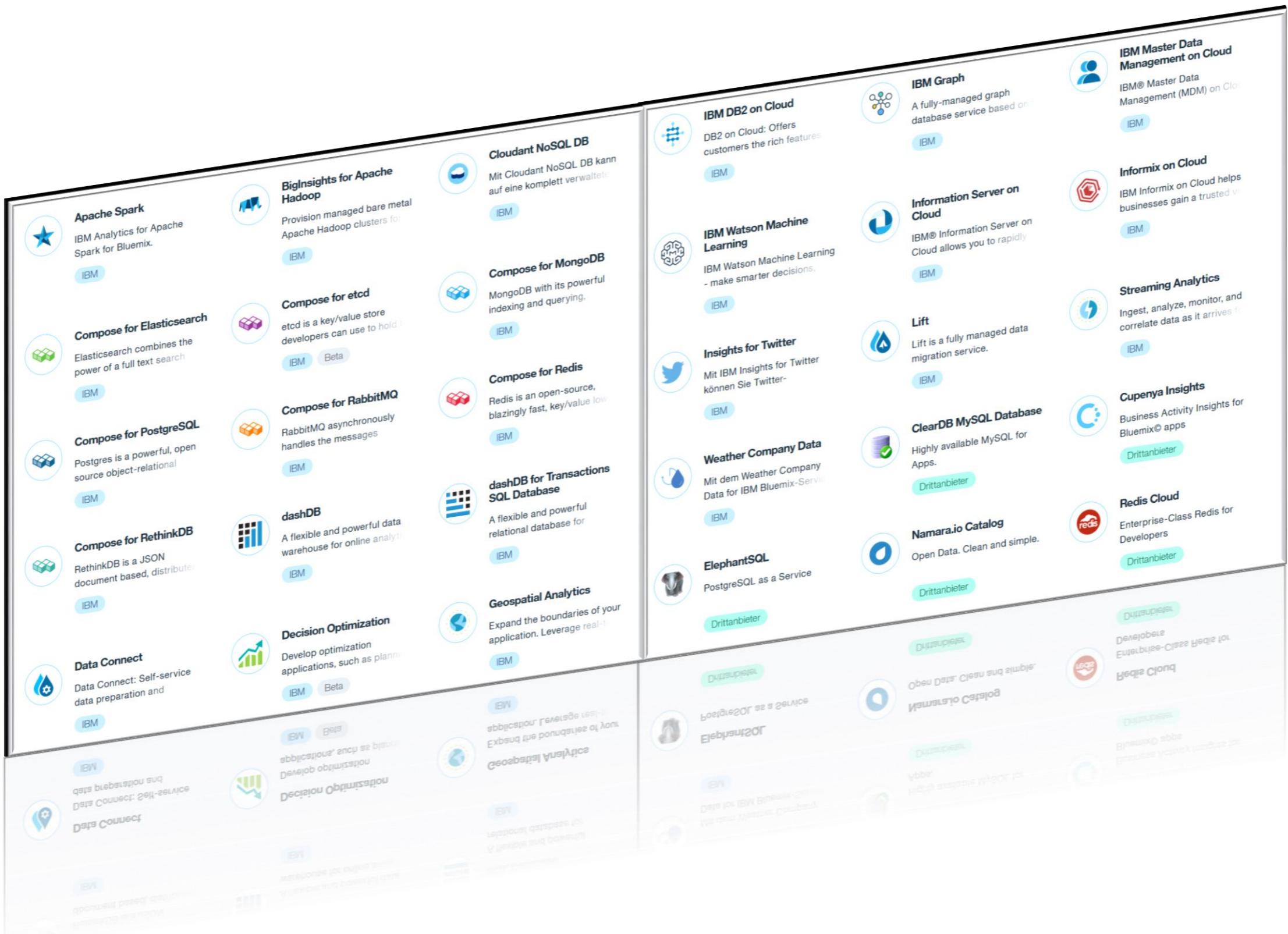
## Vision

- Visual Recognition

Combine with more than 100 services on Bluemix

# Data & Analytics Services

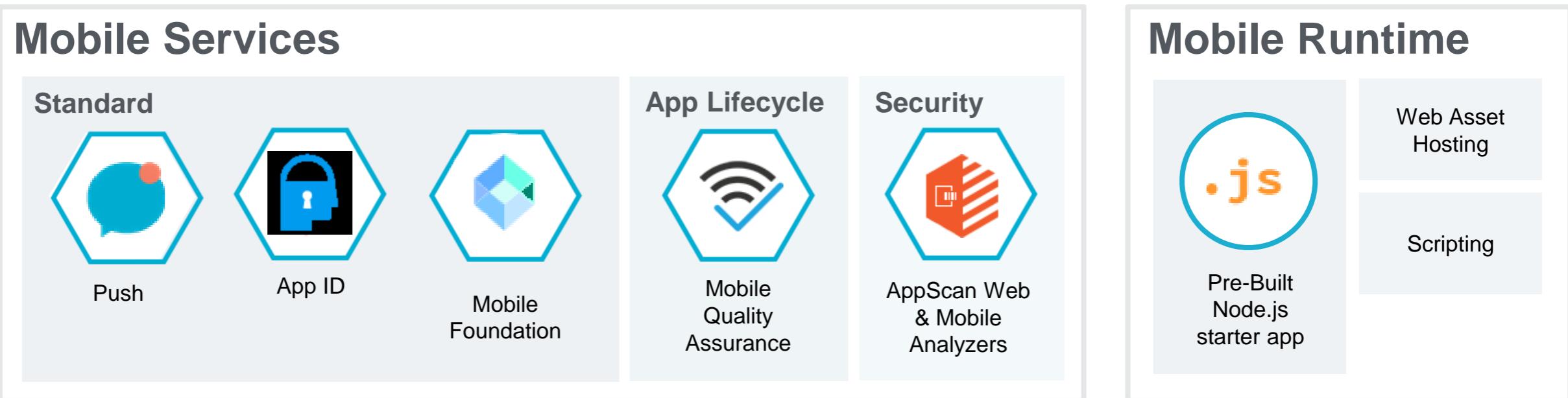
Cloud Data Services that provide a choice of technologies to store and analyse data



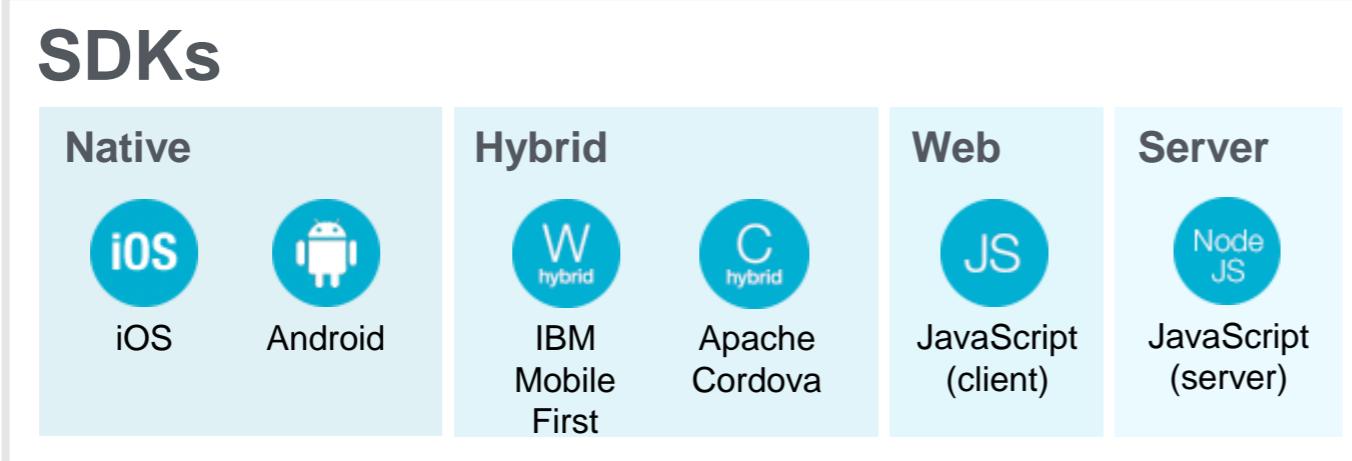
# Mobile development: easier with Bluemix

Bind **pre-built, managed and scalable Cloud Services** to mobile Apps (**native, hybrid, or web**). Supported by server-side code, e.g. based on Node.js or Swift, and easy and flexible **SDKs**.

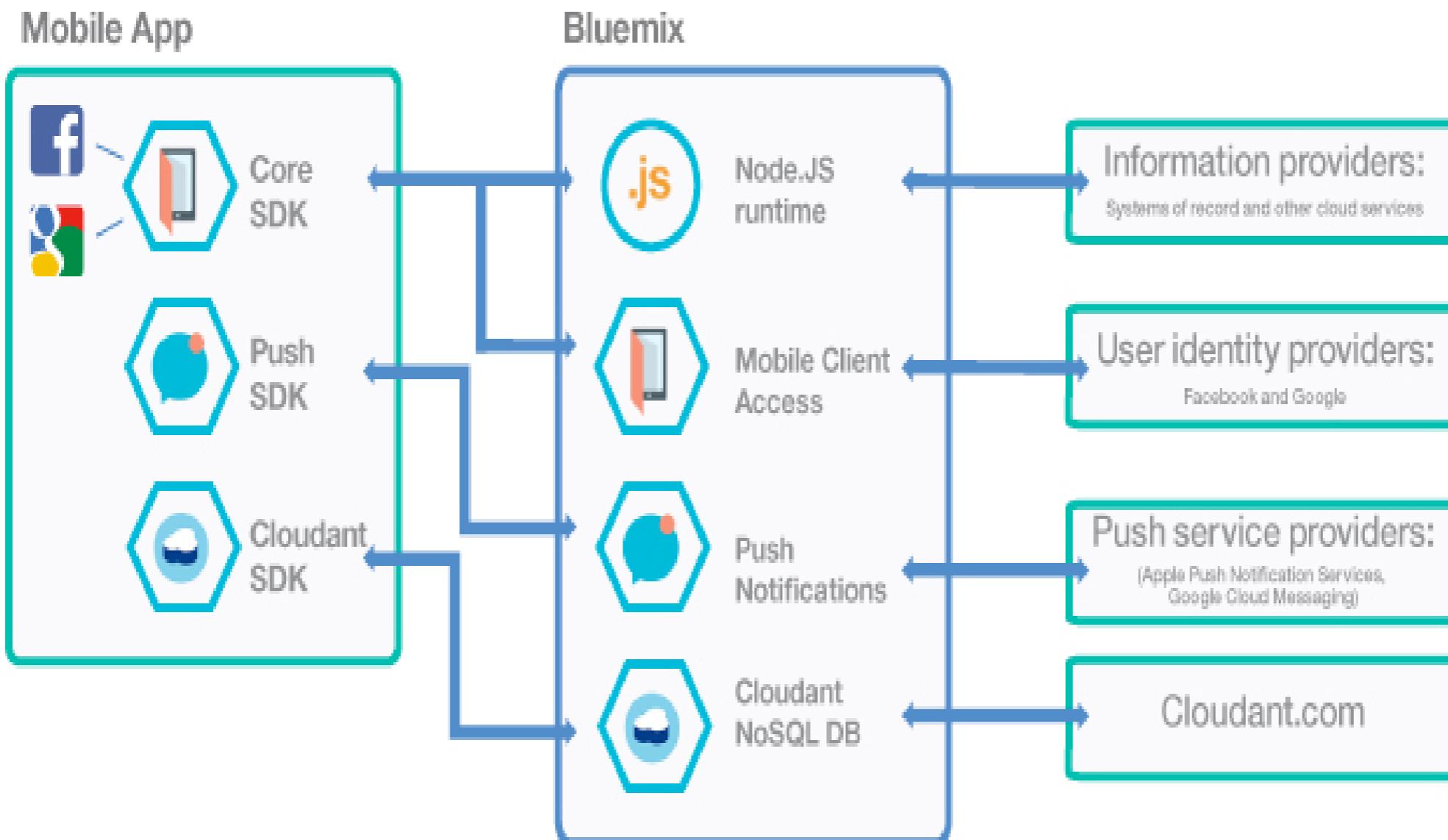
Bluemix



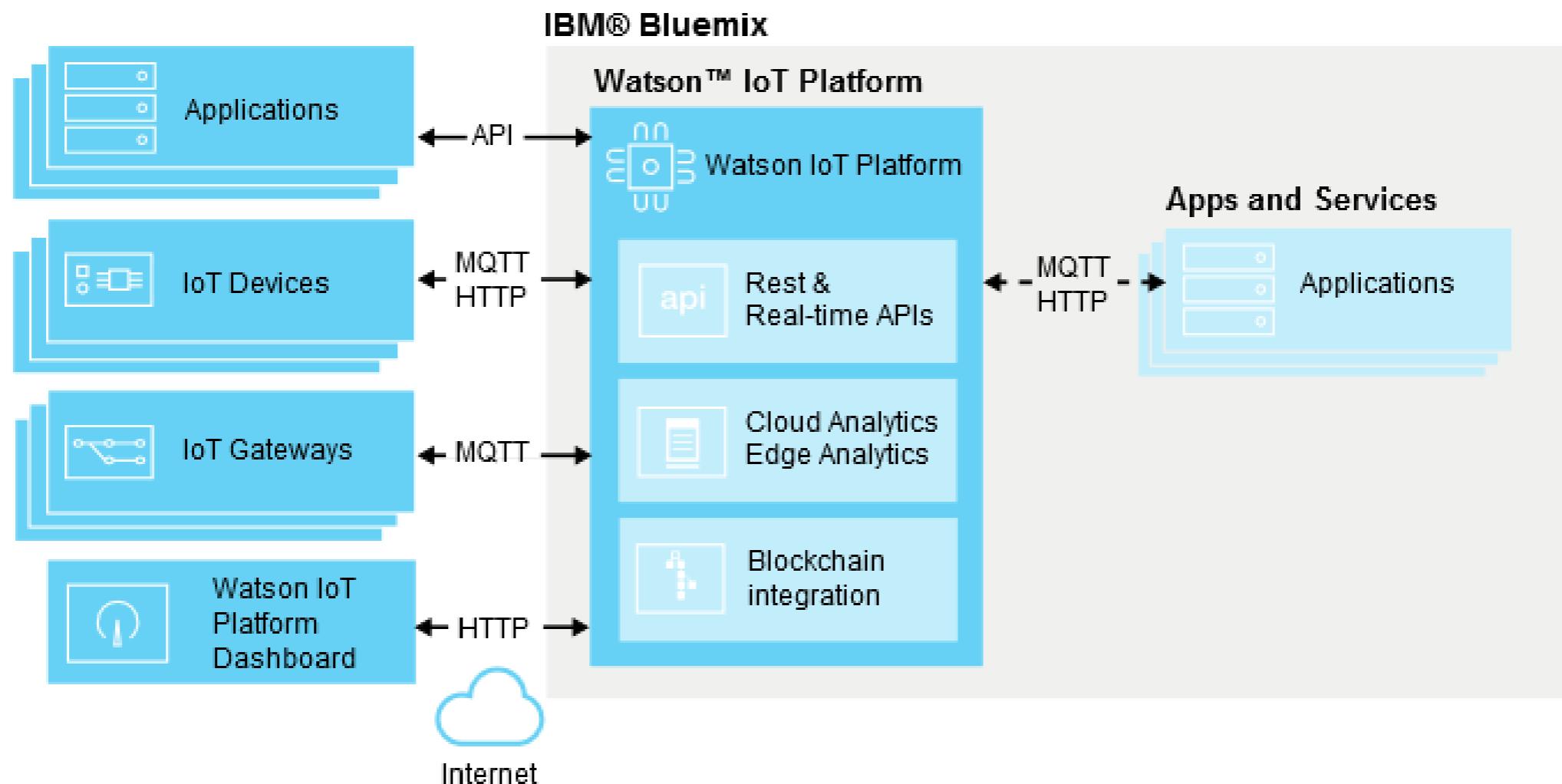
Client



# Bluemix Mobile Services Architecture



# IoT Platform - Architecture



How to build a special solution?  
How to connect a special device?

...

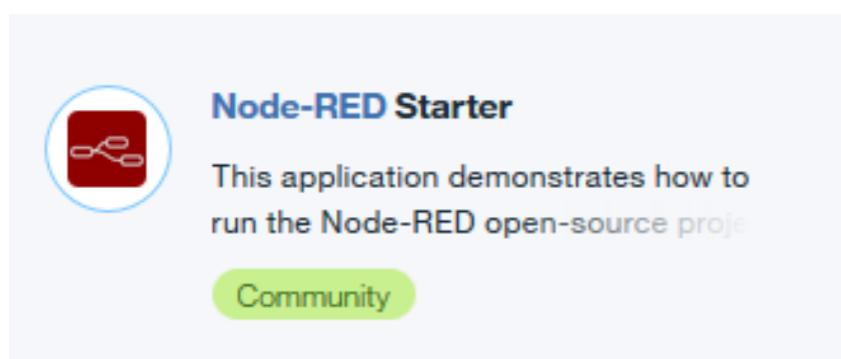
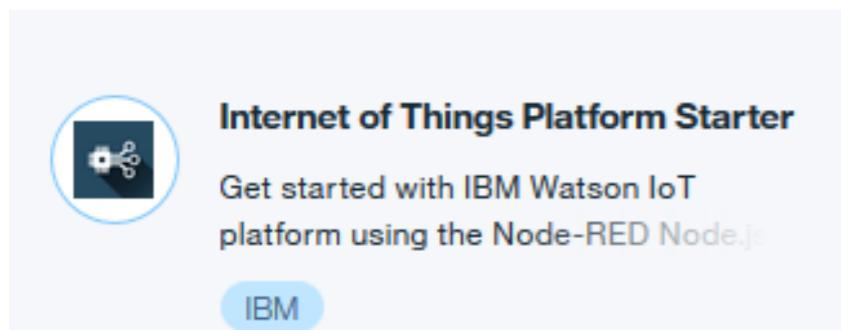
Find recipes on  
<https://developer.ibm.com/recipes/tutorials/category/internet-of-things-iot/>

# Node RED

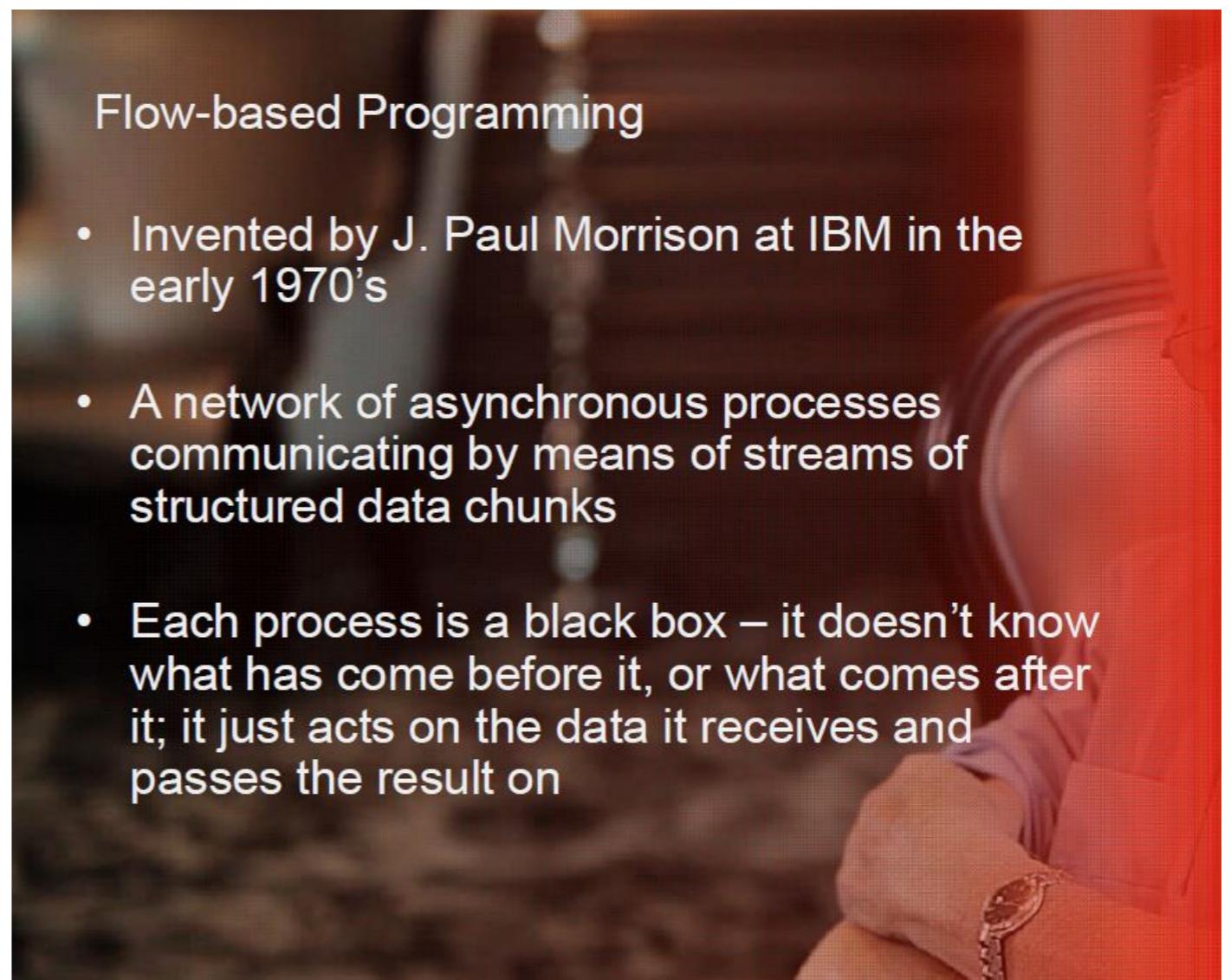
A visual tool for wiring the Internet of Things

Now it's an  
open source project.

Contained in the boilerplates

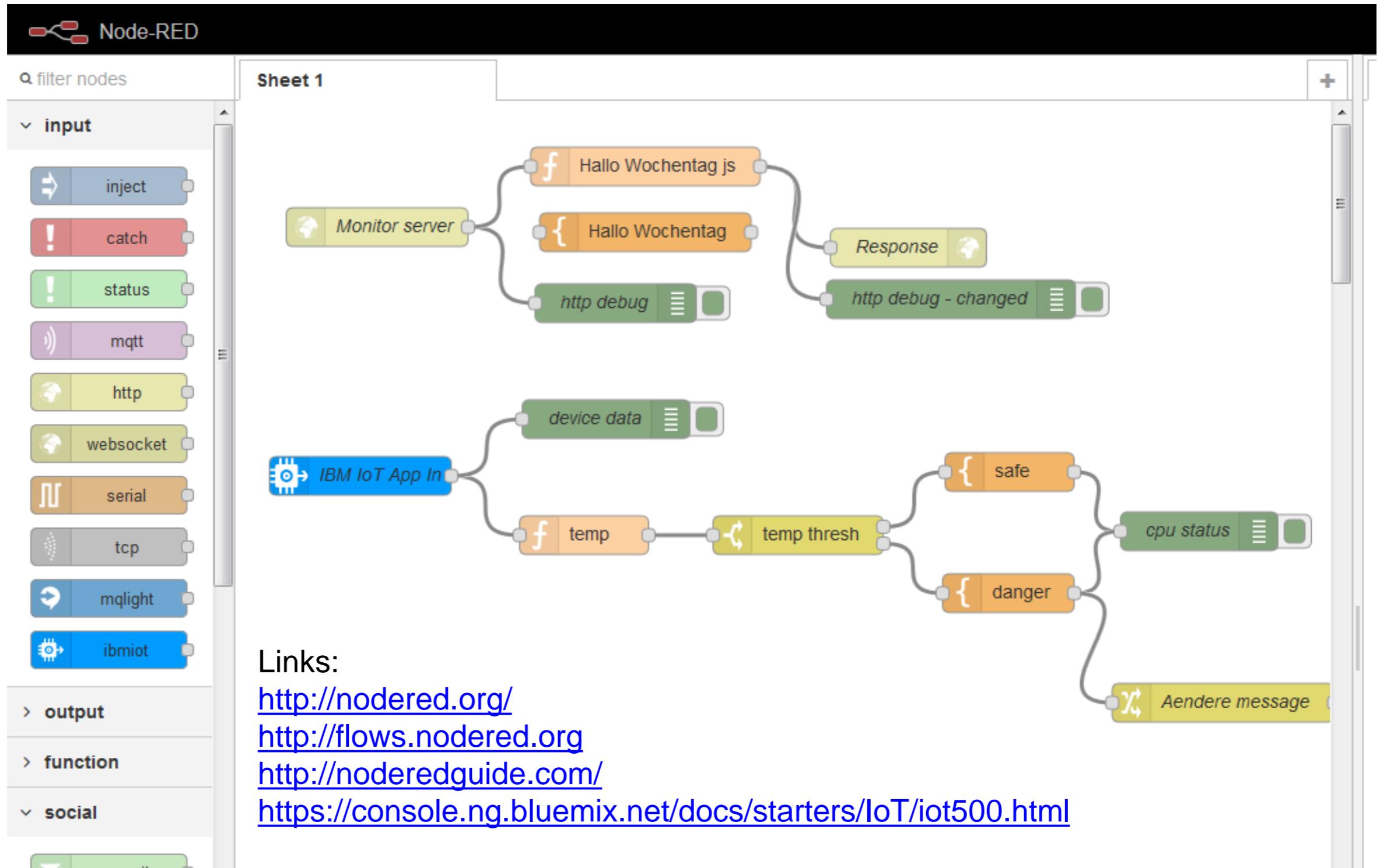


in the Bluemix catalog.



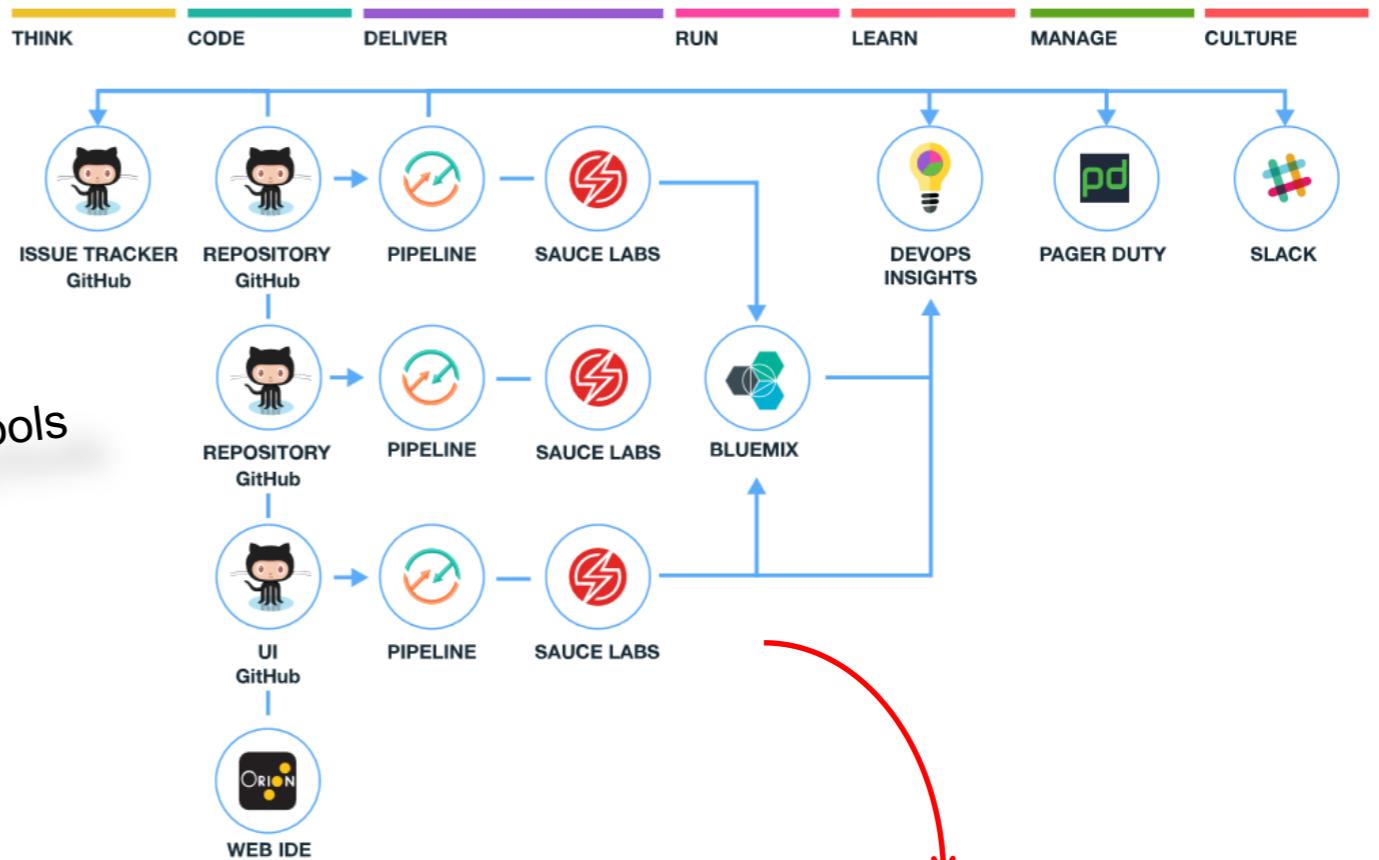
# Node RED: model the flow of actions in the editor

- predefined „nodes“
- Few programming skills needed
- Deploy to get the model executed

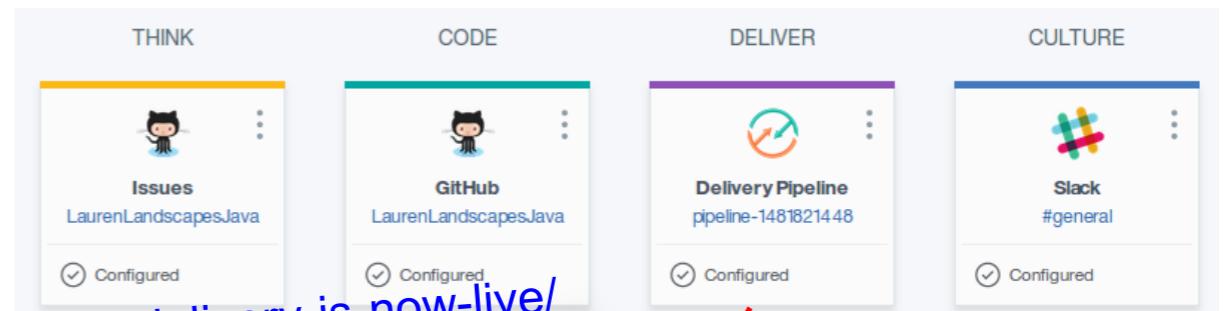


# DevOps in the cloud with IBM Bluemix

<https://www.ibm.com/devops/method/category/tools>

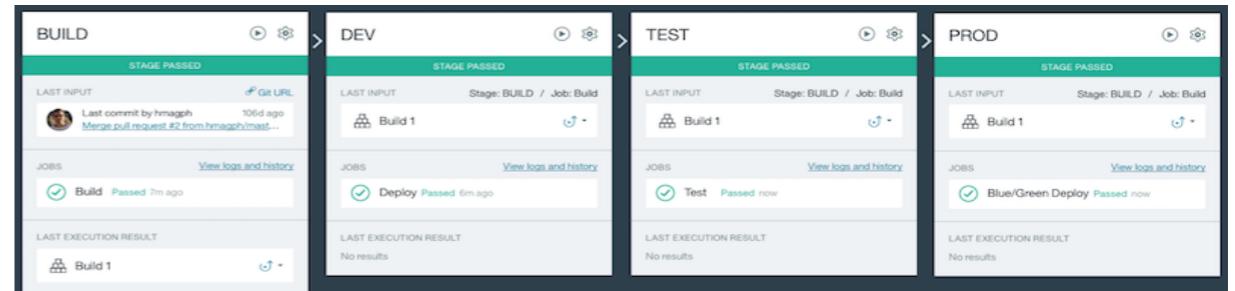


- Continuous Delivery Service



<https://www.ibm.com/blogs/bluemix/2016/11/bluemix-continuous-delivery-is-now-live/>

- Delivery Pipeline Service



Let's see it!



## A few hints...



### For the hackathon:

- **Focus on Cloud Foundry**
- **Recommended Bluemix Region: United Kingdom**

Select the region in the Bluemix-GUI

AND make sure to use the right endpoint with the  
Cloud Foundry Command Line Interfaces (CLI):

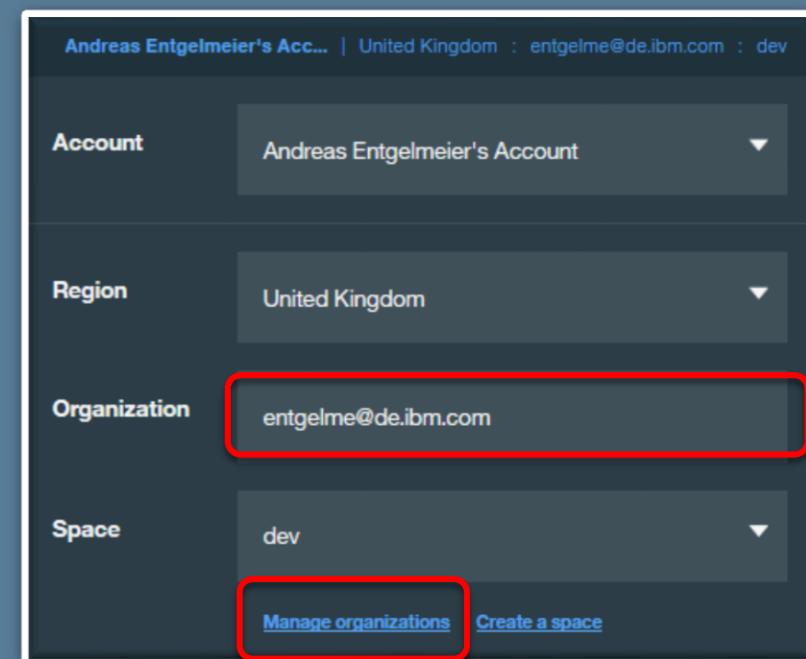
<https://api.eu-gb.bluemix.net>

The screenshot shows the Bluemix GUI interface. At the top, it displays "Andreas Entgelmeier's Acc..." and "United Kingdom : entgelme@de.ibm.com : dev". Below this, there are three dropdown menus: "Account" set to "Andreas Entgelmeier's Account", "Region" set to "United Kingdom" (which is highlighted with a red border), and "Organization" set to "entgelme@de.ibm.com". At the bottom, there are links for "Manage organizations" and "Create a space".

# A few more hints...

## Working in a team:

- Each account comes with an „Organization“
- In the account menu click on *Manage Organizations*, then to invite your team mates to your org select → *Invite Team Members*



## Source Repository:

- In the project dashboard, create / connect a source repository
- 2 options (Continuous Delivery section):
  1. host your own Git repo (on hub.jazz.net, available in UK, SYD, US)
  2. create / use GitHub repository (US only)
- Share the source repo with your team mates
- This repository can be used to trigger automatic CI/CD pipelines in the Continuous Delivery and/or Delivery Pipeline services.

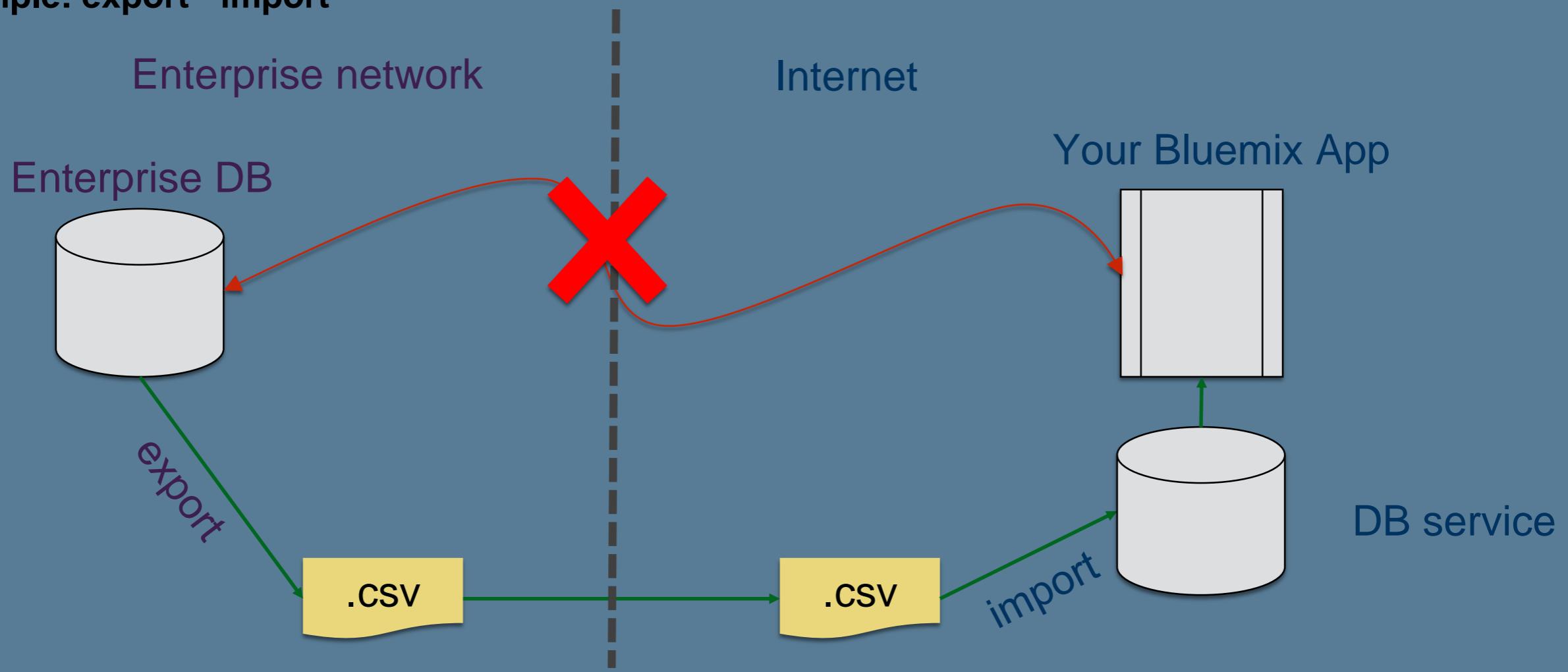
The screenshot shows the 'Continuous delivery' section of a project dashboard. It displays a message stating 'Continuous delivery is not enabled for this app.' and 'Add a Git Repo and Pipeline to build, test, and deploy your app automatically.' Below this, there is another 'Continuous delivery' section with a similar message and an 'Enable' button. A note at the bottom says 'Looking for the ADD GIT button to set up a project at [hub.jazz.net](#)? Click [here](#)'.

## A few more hints...

### Integrate test data from backend systems?

- there are several solutions to integrate backend data for productive use
- Establishing such a solution might take some time
- For the hackathon scope we recommend to avoid a direct connection to backends, and instead:
  - either use existing APIs (e.g. banking API that exposes sample account data)
  - or establish a limited amount of test data directly on a (Bluemix) data service.

#### Example: export - import



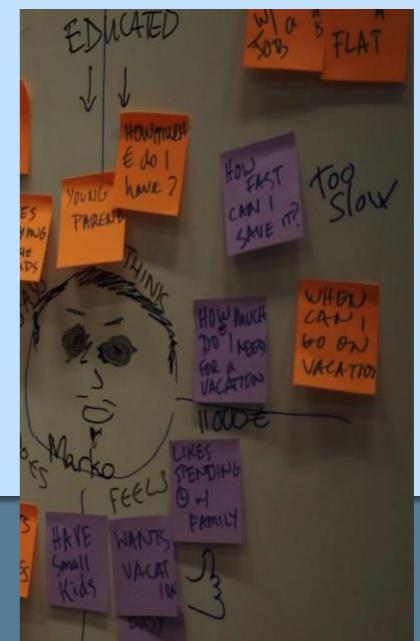
# Links

## Hackathon with Bluemix

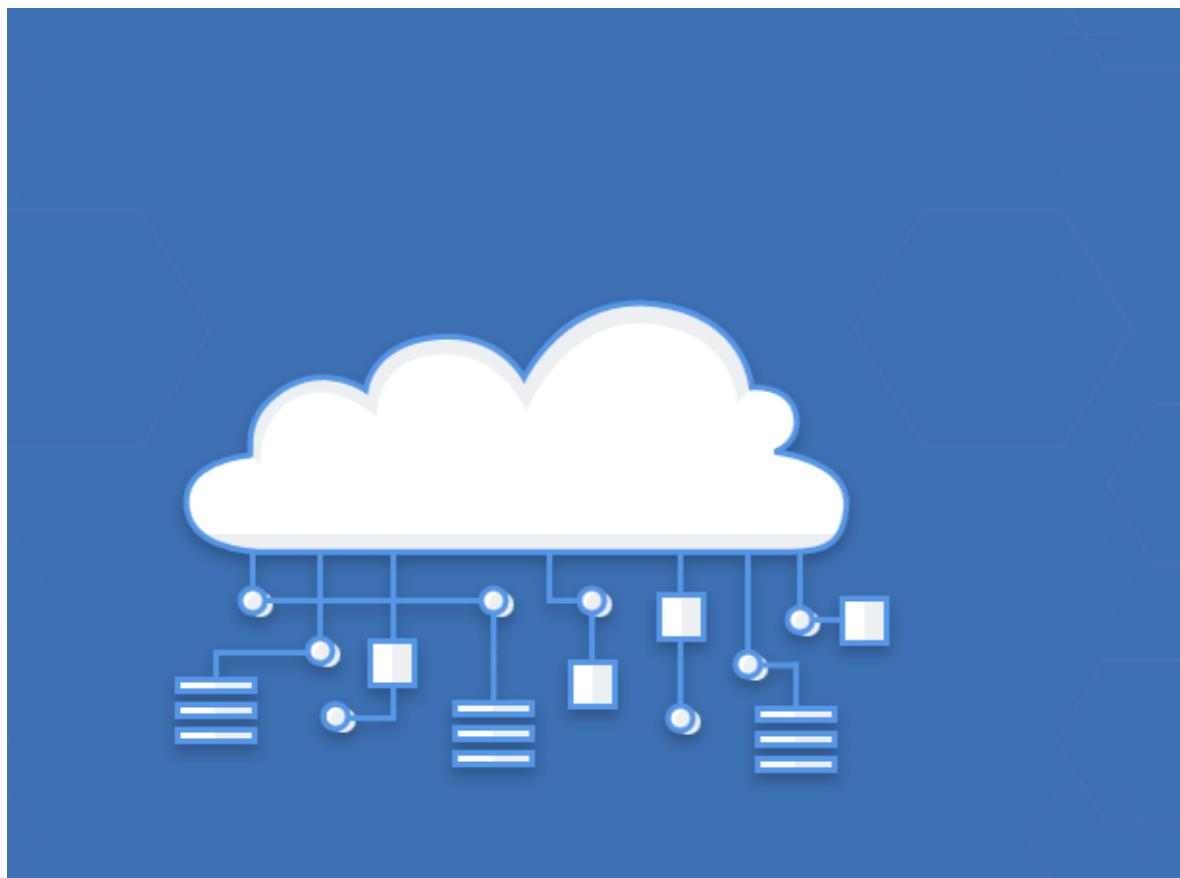
- <http://hackathon-intro-hacknext.mybluemix.net/>
- <https://github.com/IBM-Bluemix/hackathon-prep-material>

## Communities and Docs

- Bluemix Developer Center  
<https://developer.ibm.com/bluemix/>
- Bluemix Service Catalog  
<http://console.eu-gb.bluemix.net/catalog/>
- Bluemix Documentation  
<http://console.eu-gb.bluemix.net/docs/>
- Bluemix on Stackoverflow  
<http://stackoverflow.com/questions/tagged/ibm-bluemix>
- Samples ... Samples ... Samples ...  
<https://ibm-bluemix.github.io/>  
<https://github.com/IBM-Bluemix>



# What to prepare in advance?



Welcome to Bluemix, the home of 130+ unique services. Start building immediately.

[Create a free account](#)

[Log in](#)

Learn more:

[Pricing](#) [Catalog](#) [Docs](#) [Support](#)

Please register for Bluemix:

- <https://console.ng.bluemix.net/registration/>

to get a free Trial Account, valid for 30 days

We recommend to do that before the event starts.

The screenshot shows the IBM Bluemix registration process. At the top, there's a header with the IBM Bluemix logo and a 'Create a free account' button. Below that is a 'Log in' button. Further down, there's a 'Learn more:' section with links to 'Pricing', 'Catalog', 'Docs', and 'Support'. The main area is titled 'Try Bluemix free for 30 days' and contains text about the trial period and helpdesk support. On the right side, there's a large form for creating a new account. It includes fields for 'Email\*', 'First Name\*', 'Last Name\*', 'Company', 'Country or Region\*' (set to 'United States'), 'Phone Number\*', 'Password\*', 'Re-enter Password\*', and a CAPTCHA field. There are also checkboxes for 'I'm not a robot', 'Keep me informed of products, services, and offerings from IBM companies worldwide.', 'By email', 'By telephone', and 'By clicking Create Account, I accept the [Bluemix privacy policy](#) and [Bluemix terms](#)'. At the bottom right of the form is a 'Create Account' button.

## What to prepare in advance?

Get familiar with the technology (Bluemix, Runtimes, Services).

Just try! Create a project, play around, follow one of the tutorials...

In case of questions or problems don't hesitate to get in contact with the organization team.

# Bluemix in a Hackathon – Preparation Checklist



I have a Bluemix (Trial) Account



I'll bring my development machine and, if needed, a mobile device

On my development machine, I've installed

✓ the CloudFoundry CLI

(optional: also Bluemix CLI)

✓ A code editor and a current web browser  
(e.g.. Firefox, Chrome, Safari)



If needed: I did the proxy configuration for the CLI

<http://docs.cloudfoundry.org/devguide/installcf/http-proxy.html>

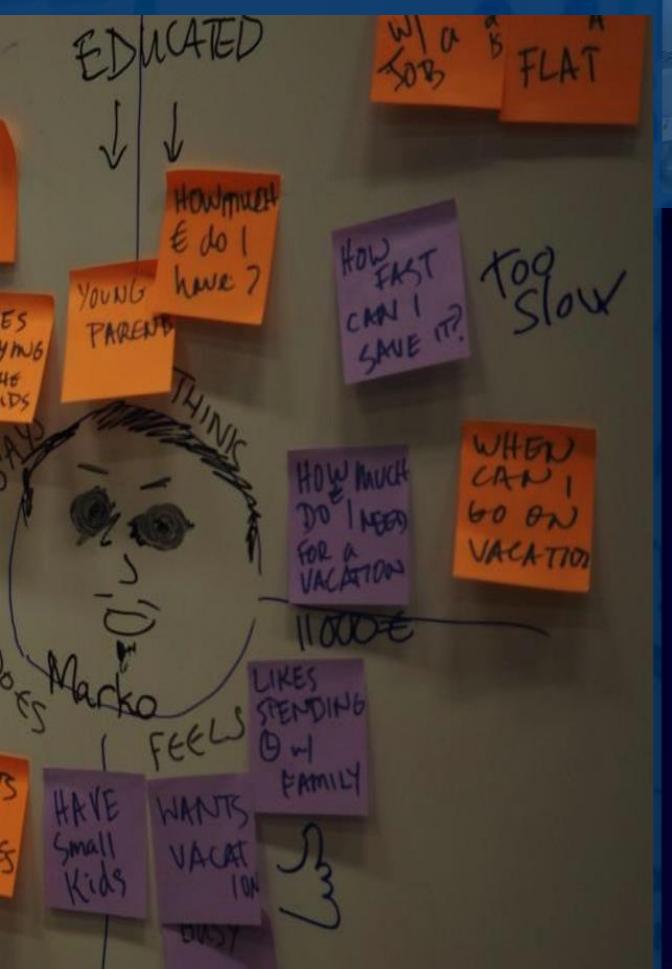
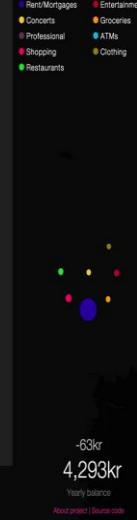
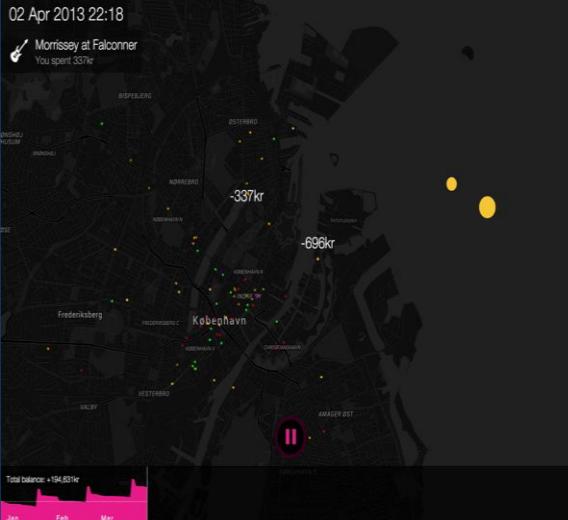
Installation of Bluemix CLI und Cloud Foundry CLI on your machine:

<https://github.com/cloudfoundry/cli/releases>

<http://clis.ng.bluemix.net/ui/home.html>

The cf tool shall work. Perform a test on the end point:

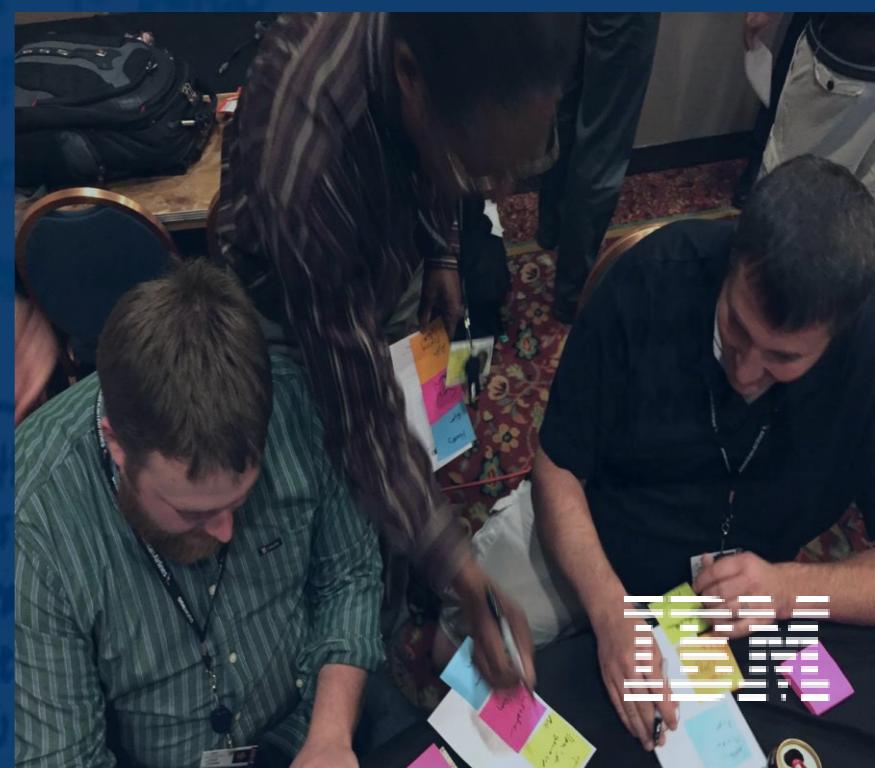
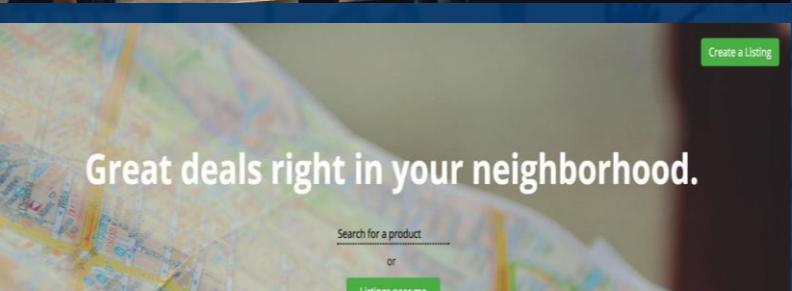
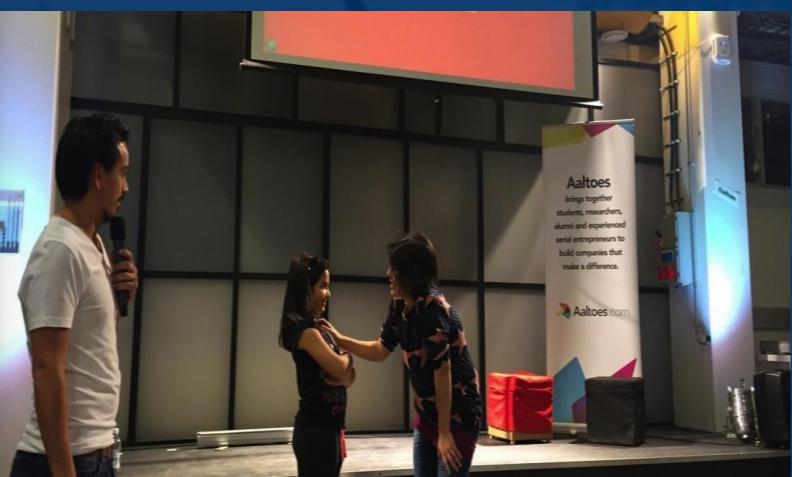
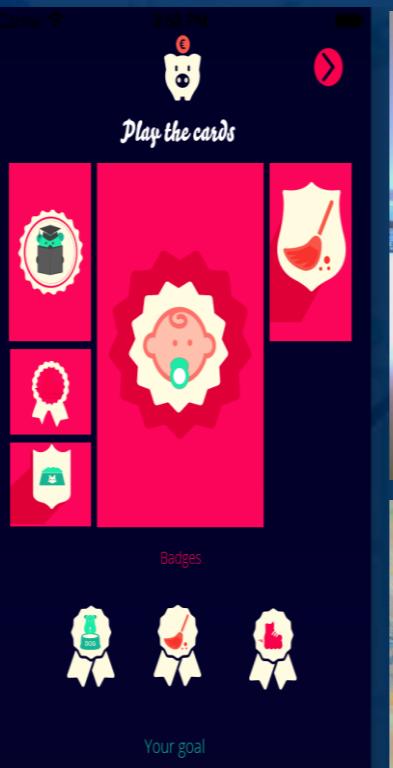
```
cf api https://api.eu-gb.bluemix.net  
cf login
```



Andreas Entgelmeier – Bluemix Specialist, IBM

17. March 2017

IBM



IBM