

Bringing the best of Containers and Machine Learning together

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<http://vmac.xyz> | @VidyasagarMSC



Demo

<http://bit.ly/2Esjpqy>

AT&T LTE 11:00 PM 58%
iot-phone-simulator.mybluemix.net

Device ID:
Phone

Authentication Token:
••••••••••

Connect Connected

Published Messages: 8

Movement

Alpha	Beta	Gamma
-95.50	36.36	-3.62

Acceleration

X	Y	Z
0.04	-0.01	-0.09

DEVICE DRILLDOWN

Recent Events

Connection Information

State

Device Information

Metadata

Extension Configuration

Diagnostics

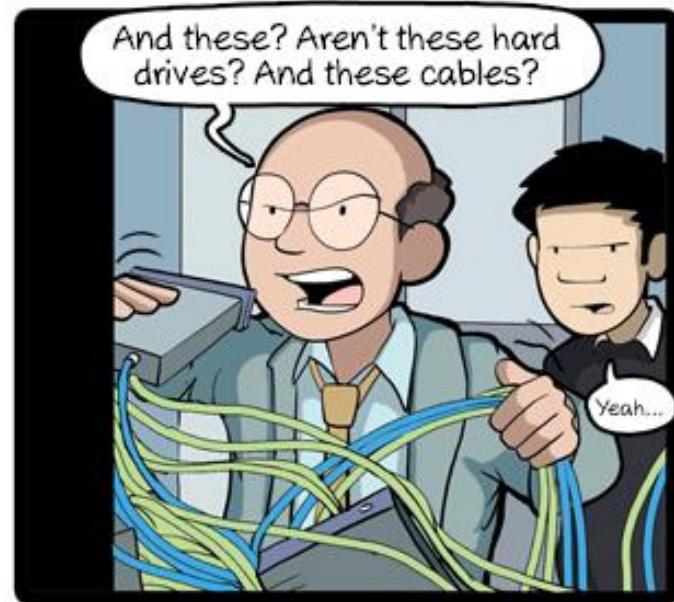
Connection Logs

Device Actions

Recent Events

Showing Raw Data | The recent events listed show the live stream of data that is coming and going from this device.

Event	Value	Format	Last Received
sensorData	{"d":{"id":"Phone","ts":1513810050169,"...}}	json	a few seconds ago
sensorData	{"d":{"id":"Phone","ts":1513810049169,"...}}	json	a few seconds ago
sensorData	{"d":{"id":"Phone","ts":1513810048168,"...}}	json	a few seconds ago
sensorData	{"d":{"id":"Phone","ts":1513810047168,"...}}	json	a few seconds ago



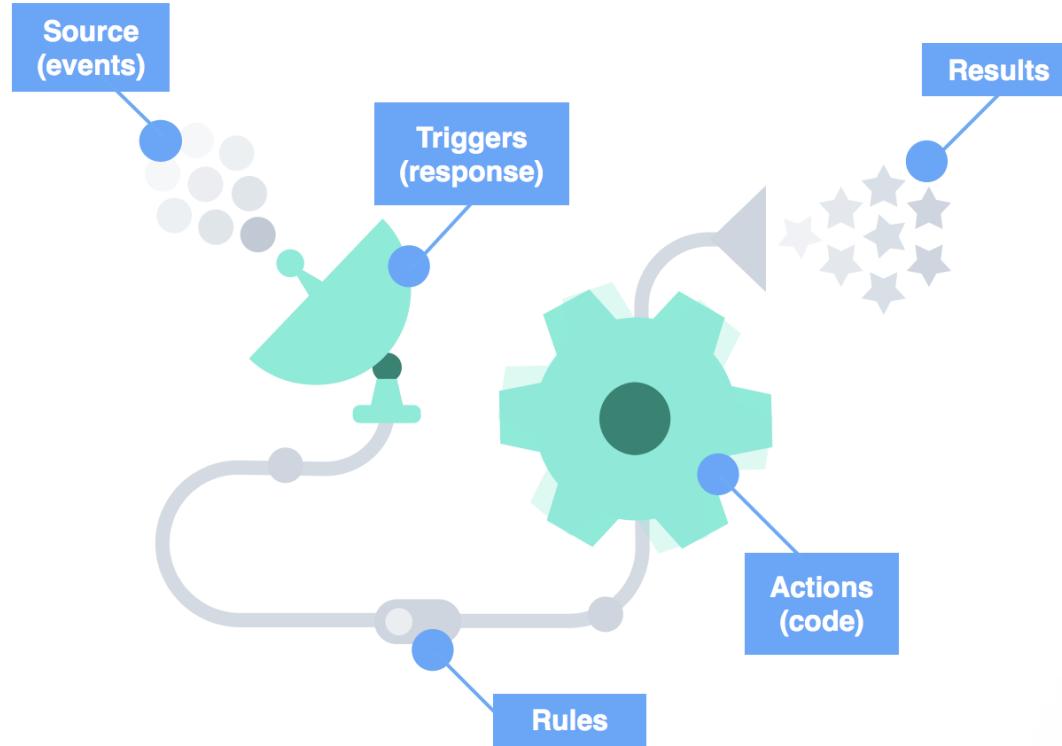
3

CommitStrip.com

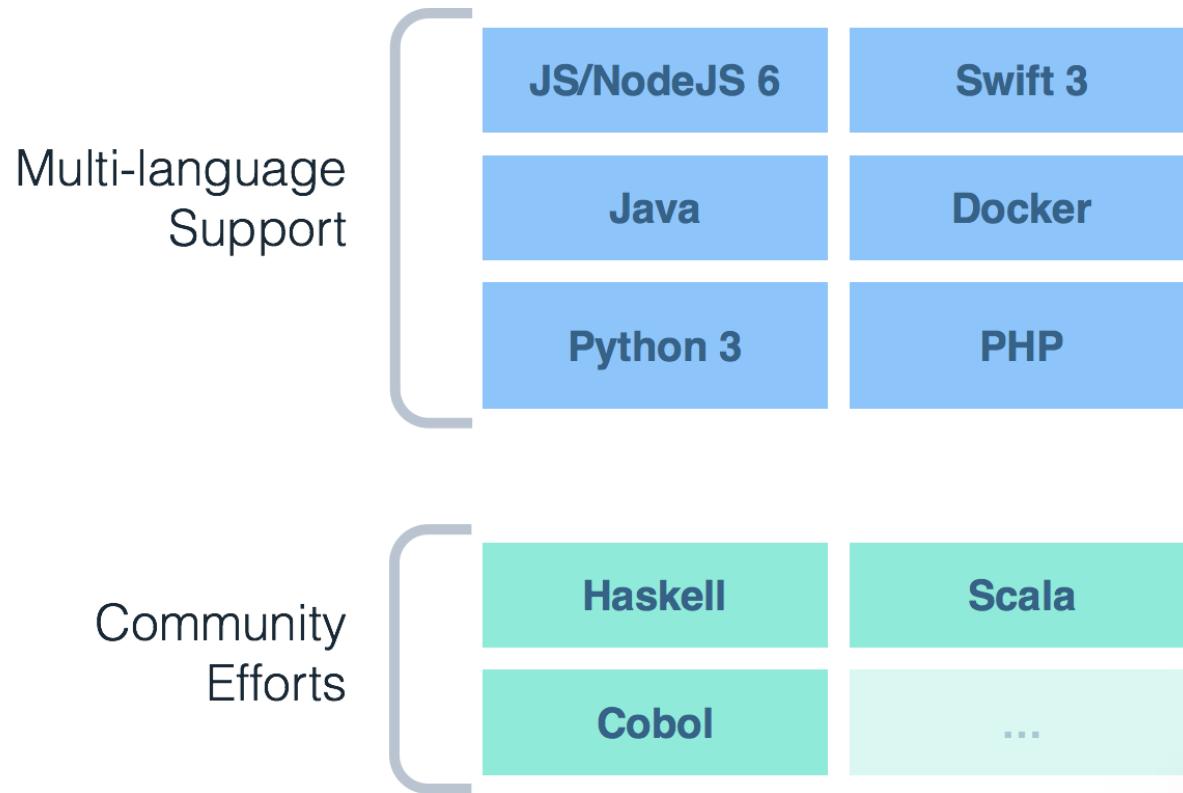
Cloud Functions



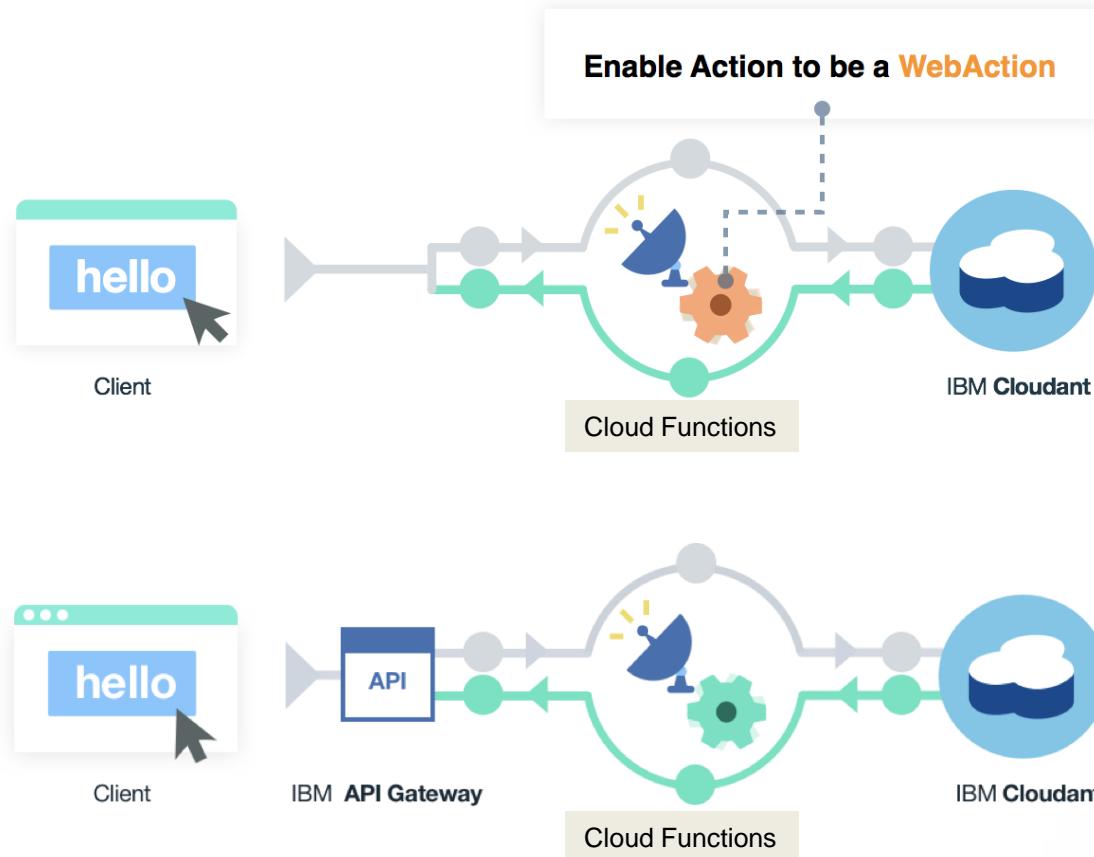
Functions as a Service (FaaS) platform to execute code in response to events



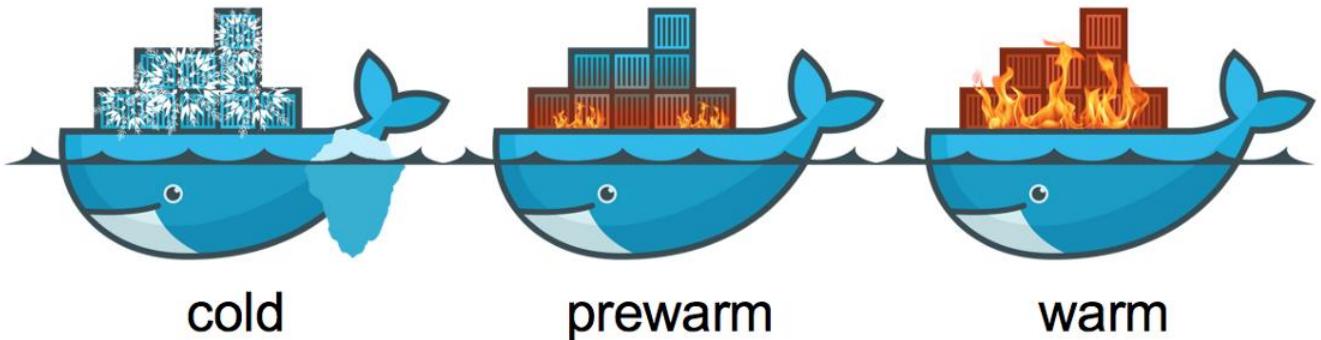
Write your code in the language you like the most



Expose your actions as API endpoints



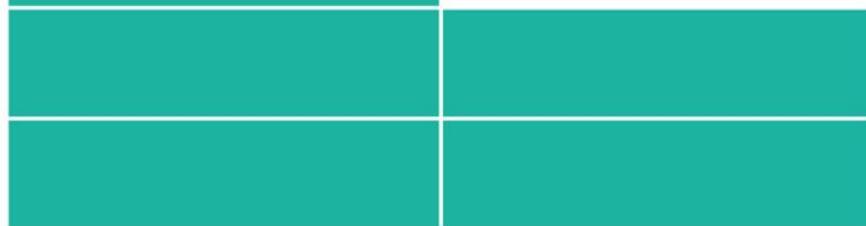
Best usage of Containers



Starting the container



Initializing the action

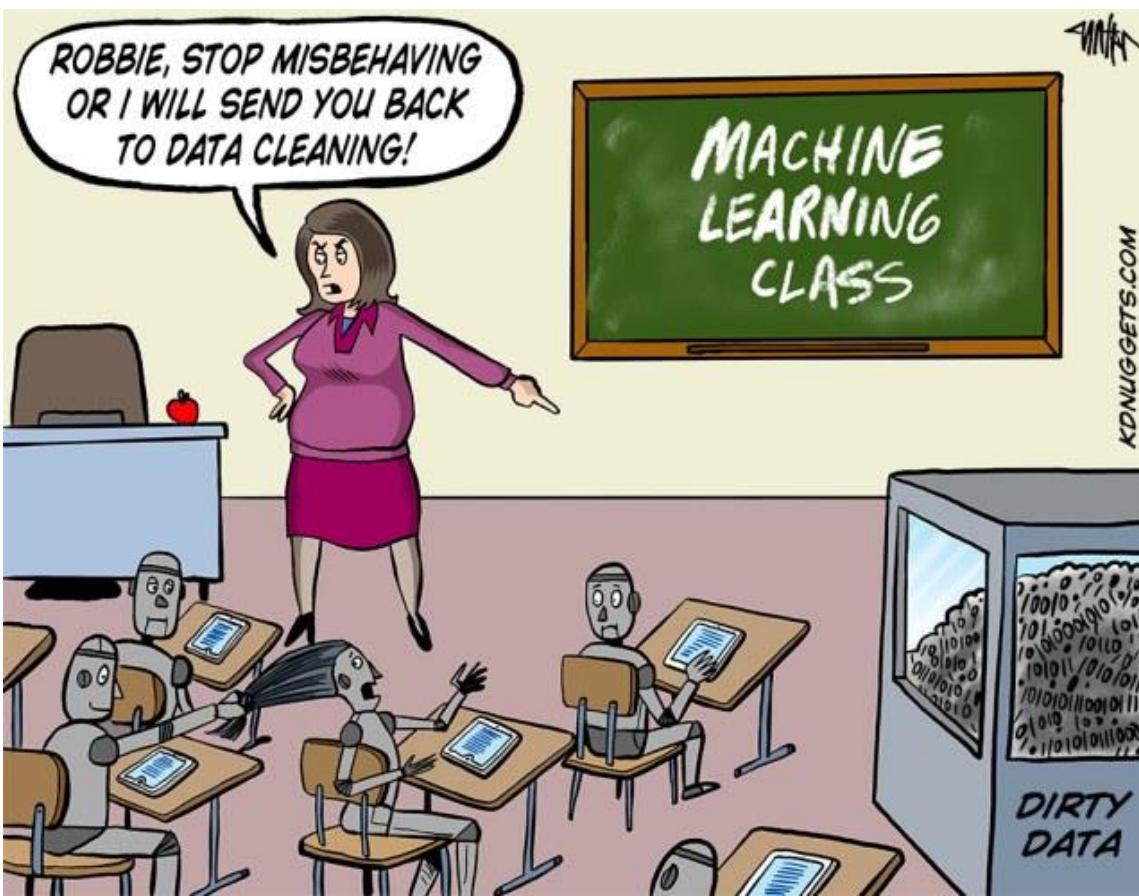


Running the action



Source: <https://medium.com/openwhisk/squeezing-the-milliseconds-how-to-make-serverless-platforms-blazing-fast-aea0e9951bd0>

Future???



KDNUGGETS.COM

Watson Studio

Built for AI teams – enabling team productivity and collaboration



Tanya
Domain Expert

Her Job:

To transfer knowledge to Watson for a successful user experience.

What she does:

- Range of domain knowledge and uses that to teach Watson and develop a custom models
- As Tanya gains more experience she optimizes her knowledge to teach Watson to design better end-user experiences.

Sometimes known as:

Subject matter expert, content strategist.



Mike
Data Scientist

His Job:

Transform data into knowledge for solving business problems.

What he does:

- Runs experiments to build custom models that solve business problems.
- Use techniques such as Machine Learning or Deep Learning and works with Tanya to validate success of trained models.

Sometimes known as:

ML/DL engineer, Modeler, Data Miner



Ed
Data Engineer

His Job:

Architects how data is organized and ensures operability

What he does:

- Builds data infrastructure and ETL pipelines. Works with Spark, Hadoop, and HDFS.
- Works with data scientist to transform research models into production quality systems.

Sometimes known as:

Data infrastructure engineer



Deb
The Developer

Her Job:

Builds AI application that meet the requirements of the business.

What she does:

- Starts PoCs which includes gathering content, dialog building and model training
- Focus is on app building for the team or company to use. Will handle ML Ops as needed

Sometimes known as:

Front-end, back-end, full stack, mobile or low-code developer

Watson Studio

Supporting the end-to-end AI workflow

Connect & Access Data

Search and Find Relevant Data

Prepare Data for Analysis

Build and Train ML/DL Models

Deploy Models

Monitor, Analyze and Manage

Connect and discover content from multiple data sources in the cloud or on premises. Bring **structured** and **unstructured** data to one toolkit.

Find data (structured, unstructured) and AI assets (e.g., ML/DL models, notebooks, Watson Data Kits) in the **Knowledge Catalog** with intelligent search and giving the right access to the right users.

Clean and prepare your data with **Data Refinery**, a tool to create data preparation pipelines visually. Use popular open source libraries to prepare unstructured data.

Democratize the creation of ML and DL models. Design your AI models **programmatically** or **visually** with the most popular **open source** and IBM ML/DL frameworks or leverage transfer learning on **pre-trained** models using **Watson tools** to adapt to your business domain. Train at scale on **GPUs** and **distributed** compute

Deploy your models easily anywhere and have them **scale automatically** for online, batch or streaming use cases

Monitor the performance of the models in production and trigger automatic retraining and redeployment of models. Build **Enterprise Trust** with Bias Detection, Mitigation Model **Robustness** and Testing Service Model **Security**.

Machine Learning



SPSS Modeler



Deep Learning



Let's see in action...



The dataset



Iris Versicolor

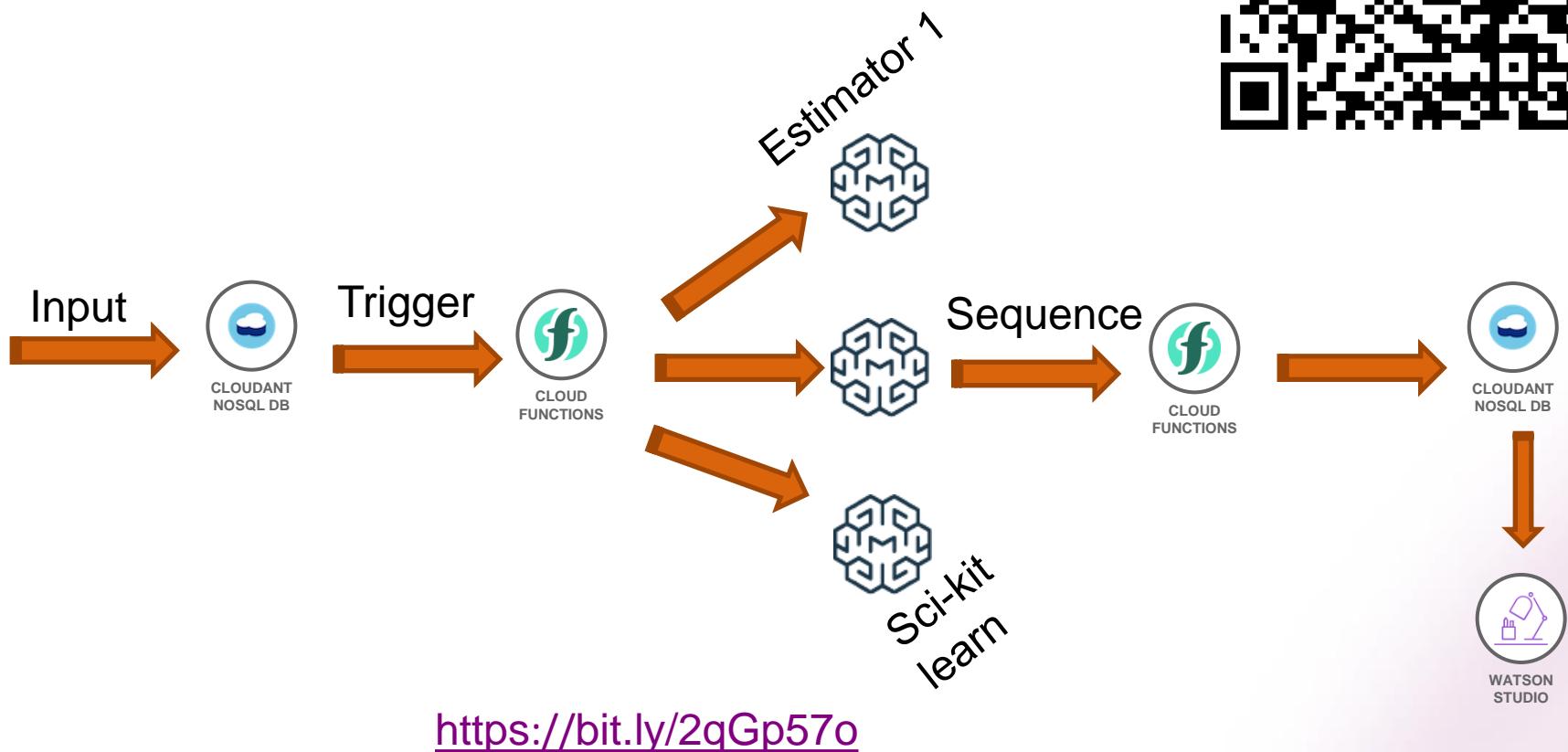


Iris Setosa



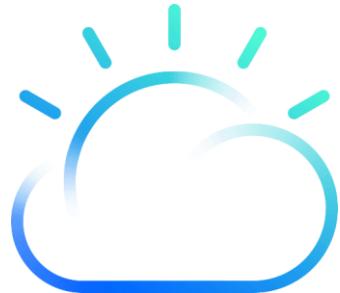
Iris Virginica

What you just saw





<https://developer.ibm.com/code/>



Signup for IBM Cloud
<https://bluemix.net>

Solution Tutorials

<http://ibm.biz/solution-tutorials>

Thank you



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