

# Chatbots and Serverless

—  
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# Before we start...



Source : [giphy.com](https://giphy.com)



Source: [imgflip.com](https://imgflip.com)

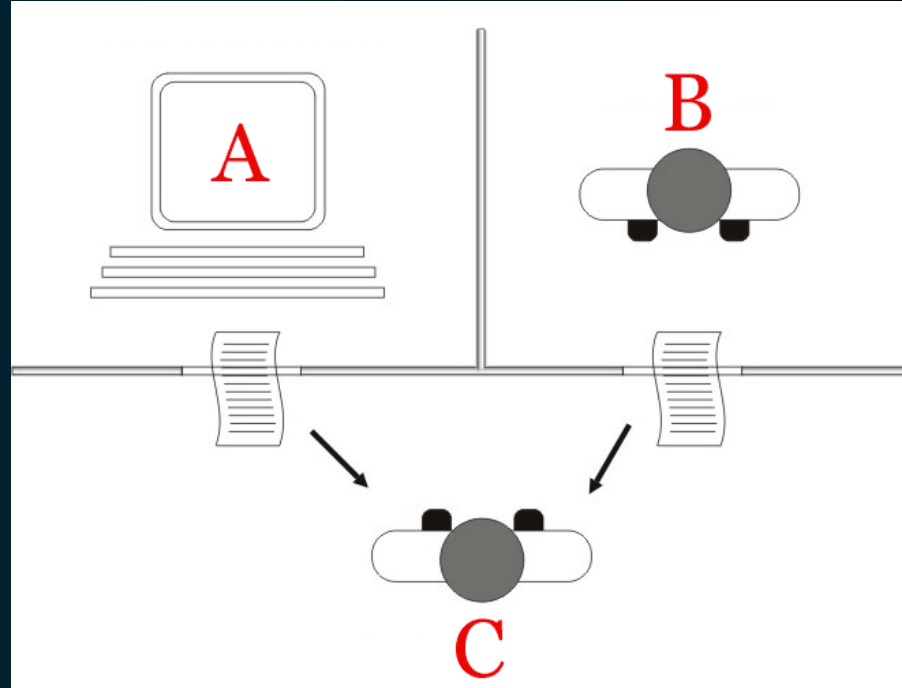
# I. What's a chatbot?

aka talkbot, chatterbot, Bot, IM bot, conversational agent, interactive agent...

What's a chatbot?

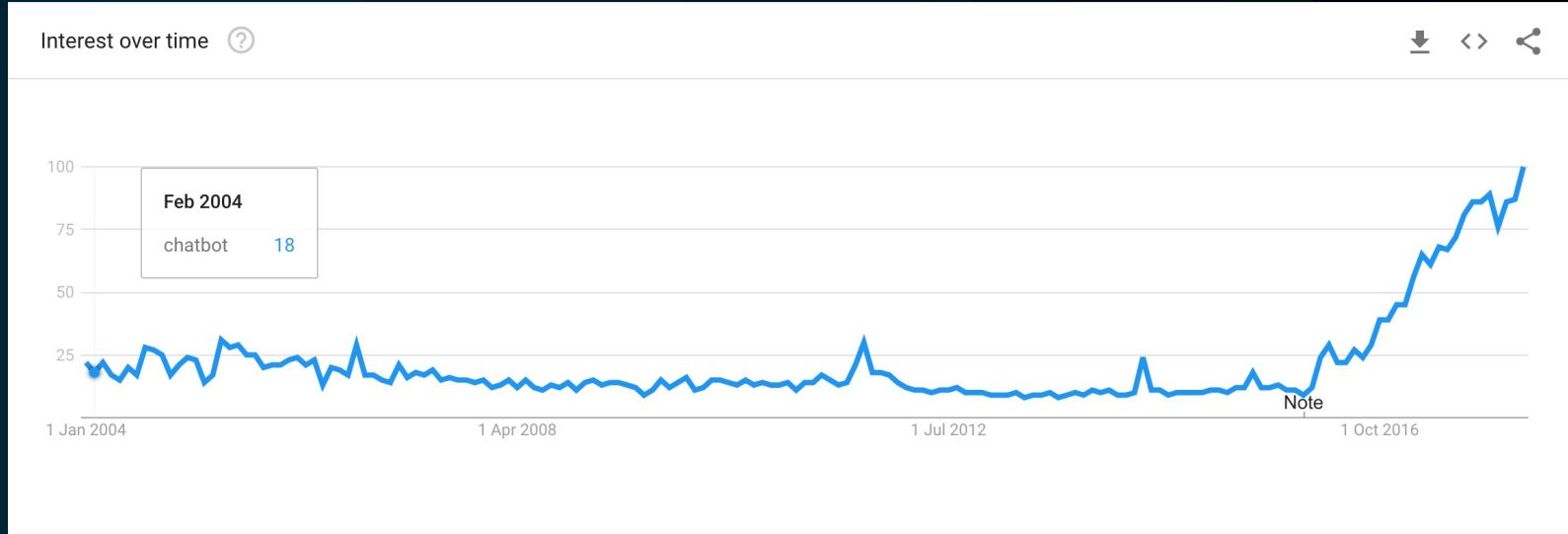
“A computer program designed to simulate conversation with human users, especially over the Internet.”

# Turing test



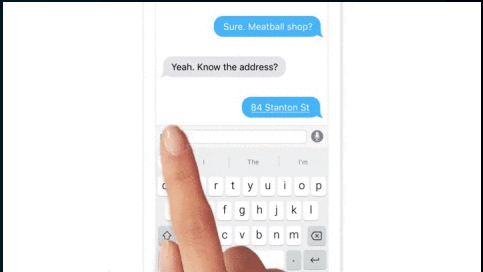
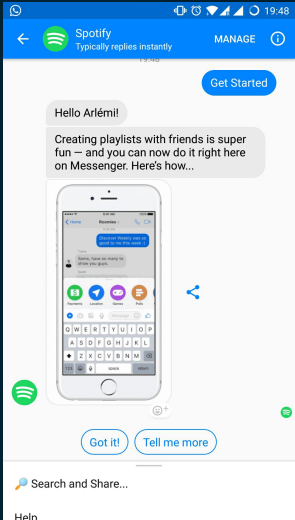
Source: [Wikipedia](https://en.wikipedia.org/wiki/Turing_test)

And suddenly... they're everywhere!



Source: [Google Trends](#)

# Examples



# Examples



Paul Gion ... 00:56

There's a **MetricBot** haunting the grid (seems to be enjoying the public channels only). It's unclear what triggered its appearance.



**MetricBot** APP 00:56

Can you reword your statement? I'm not understanding.



1



1



1 reply 3 days ago



**MetricBot** APP 01:02

I didn't understand. You can try rephrasing.



1



1



Paul Gion ... 01:05

@MetricBot, you haven't done your ML/DL homework. Bad bot! 🤖



1



**MetricBot** APP 01:05

Can you reword your statement? I'm not understanding.



3



2

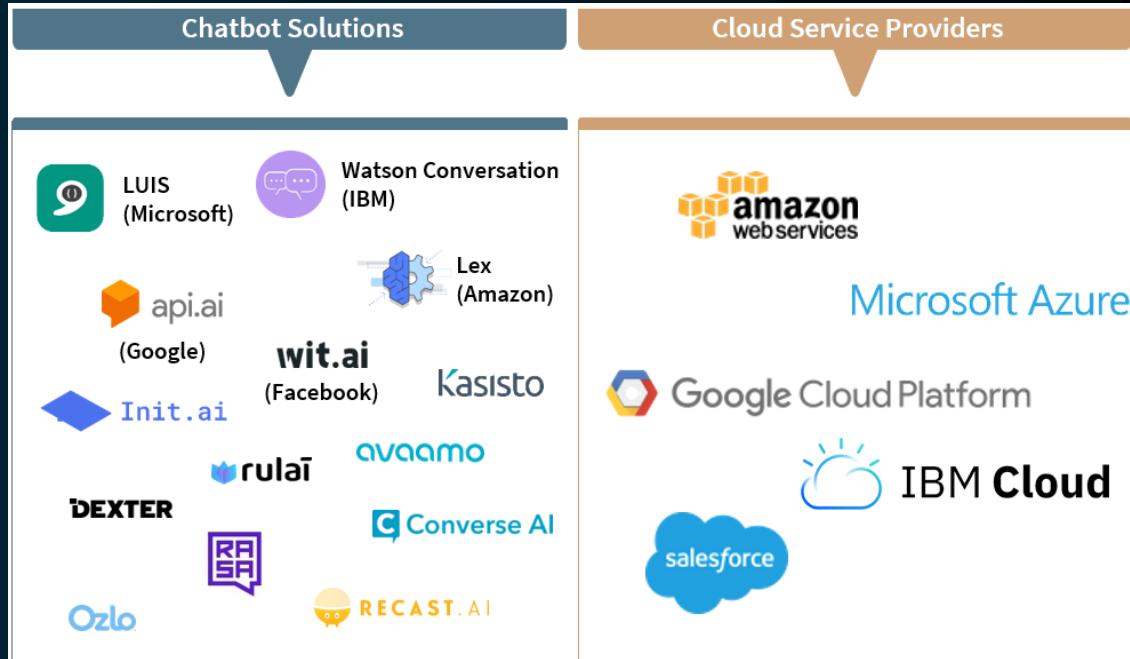


2



## II. How to build a chatbot

# Chatbot platforms



# What defines your chatbot

1. Intents

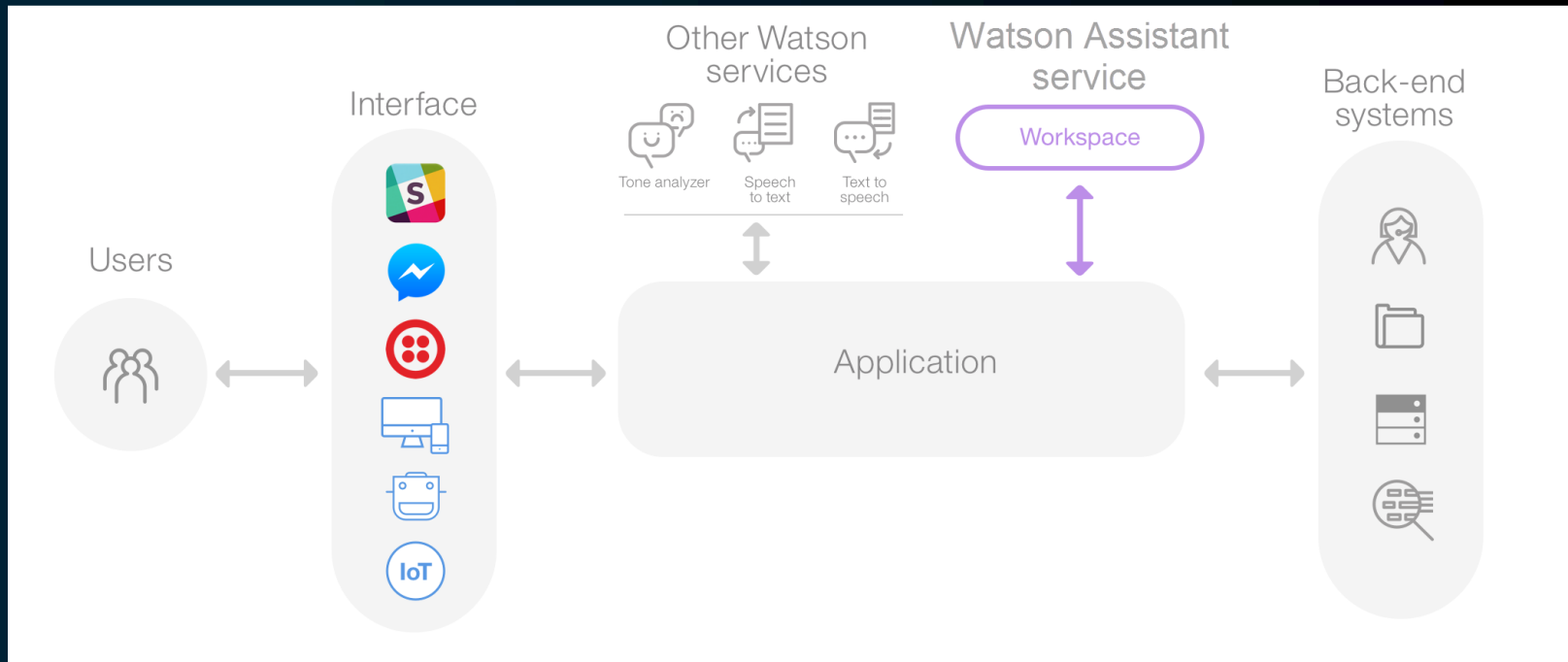
ex: greetings – *hi, hello, hey, hello there...*

2. Entities

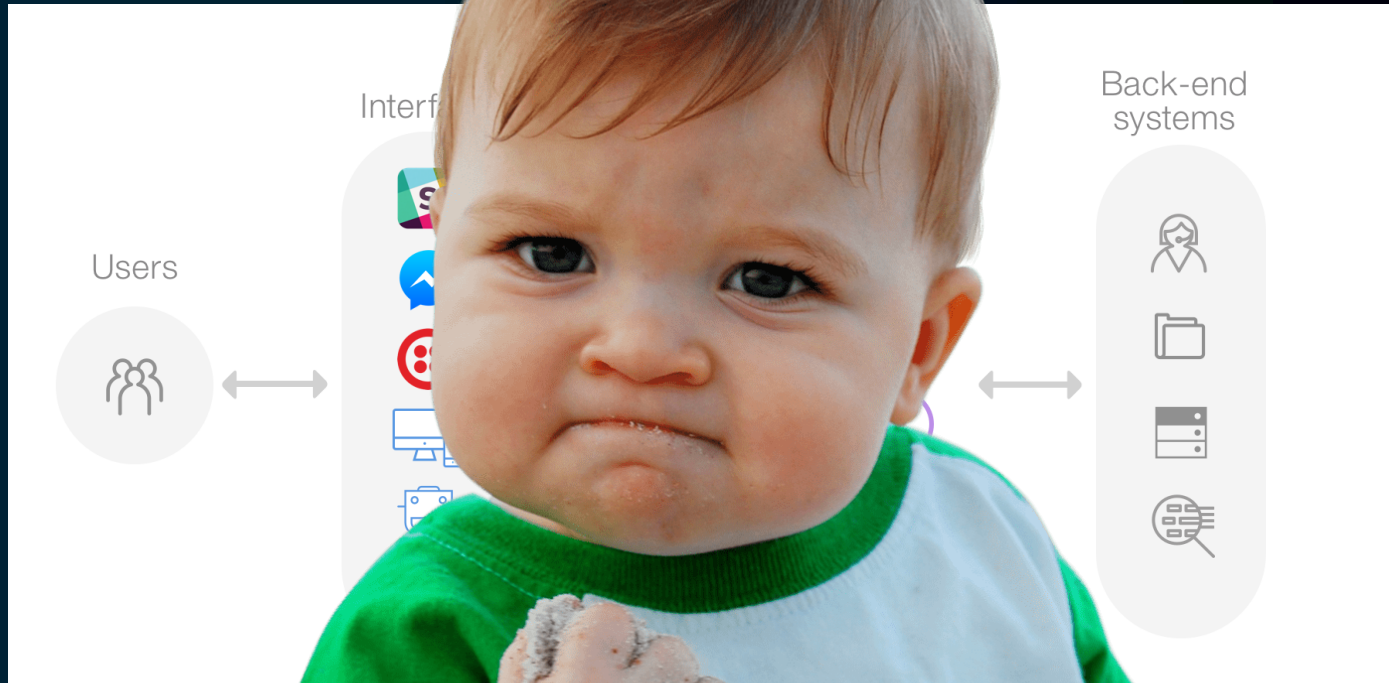
ex: cities – *Tel Aviv, Berlin, New York, Tokyo*

3. Dialog flow

# Architecture of a complete solution



# Architecture of a complete solution serverless



# What is “Serverless” computing?

FaaS, Event-Driven, Functions, Lambda, OpenWhisk and Jeff!

# What is Serverless?



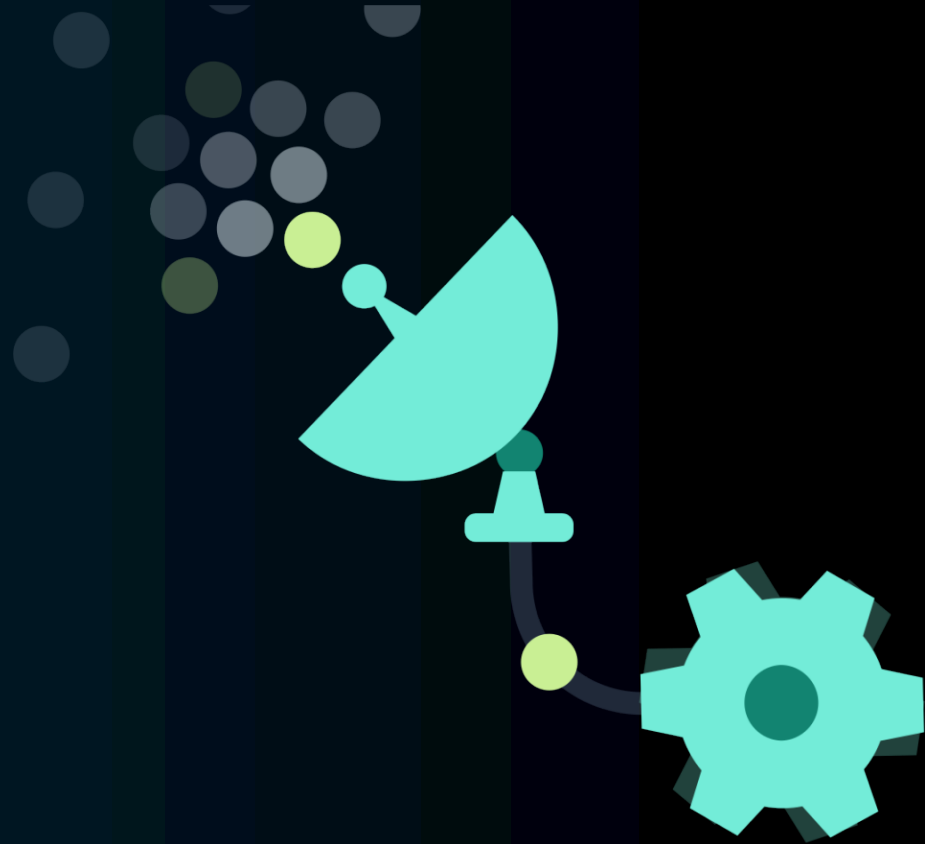
No Servers



Just Code

# What is Serverless?

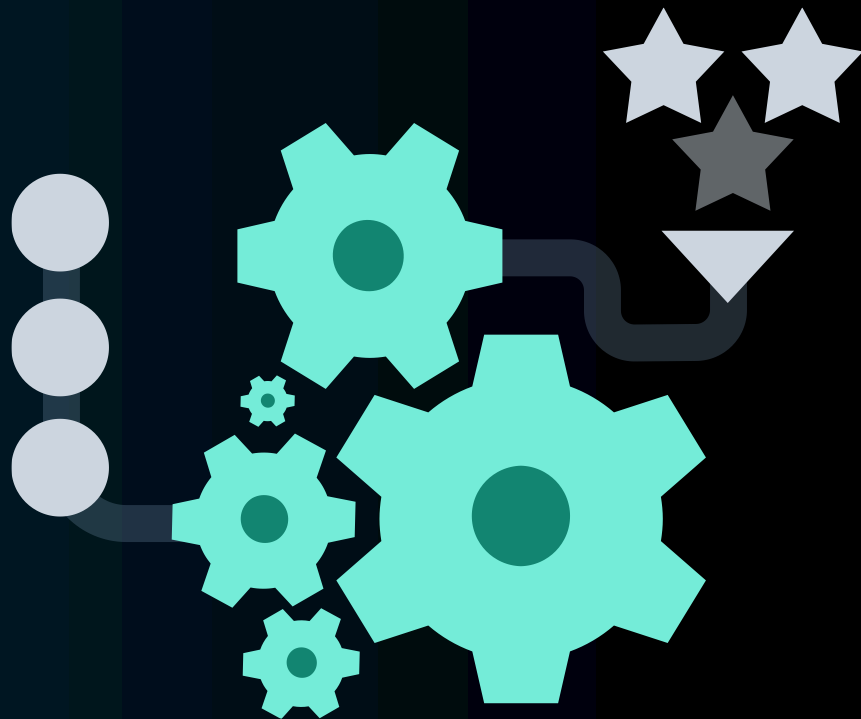
Runs that code  
**On Demand**





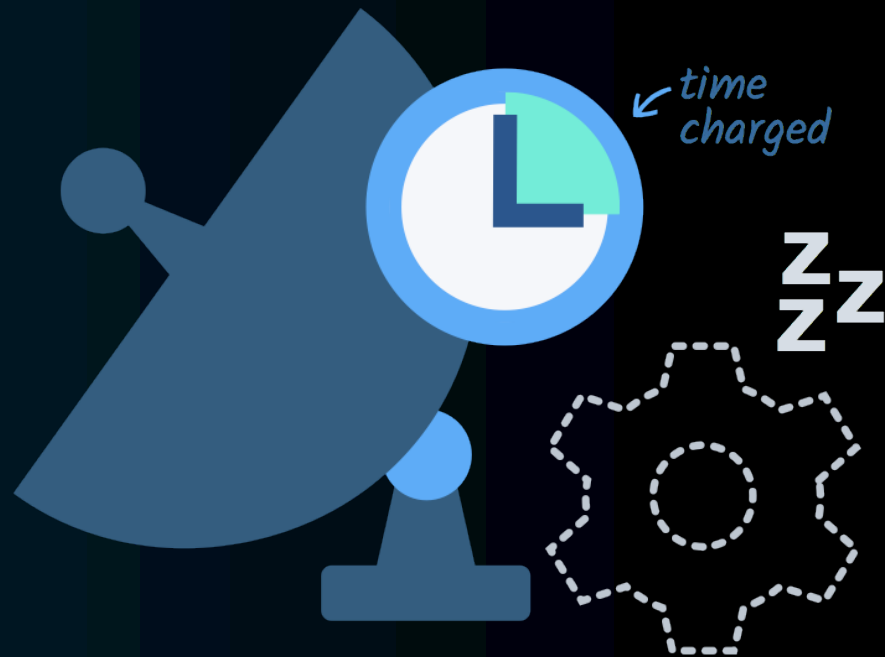
# What is Serverless?

Scales on a  
**Per-request**  
basis



# What is Serverless?

Only billed for the  
resources used



# Example

An Internet Enabled Alarm



# Severless Use Cases

Apps well suited to severless computing

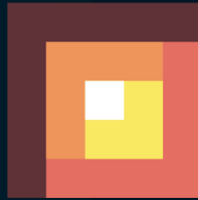
## Serverless Use Cases

- Internet of Things
- Mobile back ends
- Data Processing
- Chatbots
- Video/Image Manipulation

# Severless Providers

People who manage those boring servers for you

## Serverless Providers

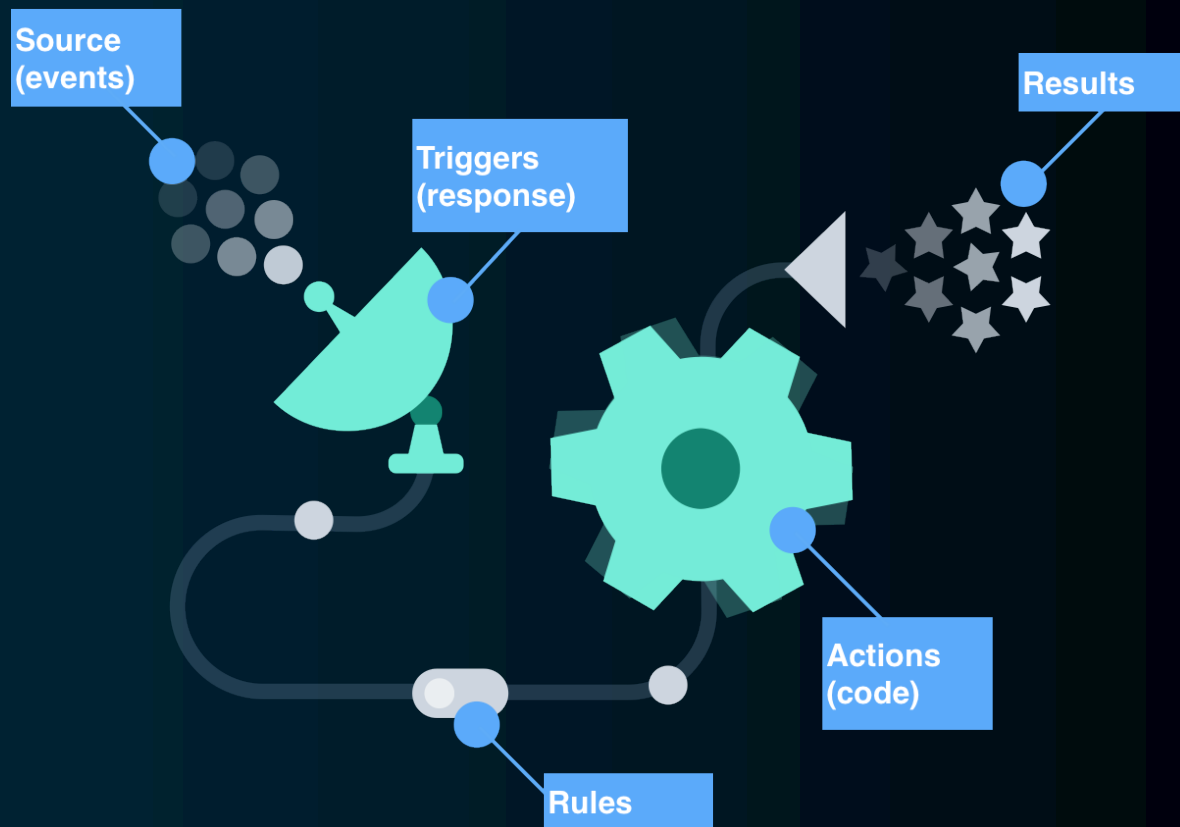


# Apache OpenWhisk

[openwhisk.org](https://openwhisk.org)



# Apache OpenWhisk



# Apache OpenWhisk

## Event Sources

Event sources, such as devices, queues, databases, and webhooks, emit classes of events in the form of triggers.

# Apache OpenWhisk

## Triggers

Triggers are the class of events (including device readings, published messages, and data changes) that are emitted by event sources.

# Apache OpenWhisk

## Actions

Actions are functions that encapsulate code – written in any supported language by implementing a single method signature – to be executed in response to a trigger.

# Apache OpenWhisk

## Rules

Rules represent the declarative association between a trigger and an action, defining which action(s) should be executed in response to an event

# Apache OpenWhisk

## Sequences

Sequences allow to chain together a sequence of actions in a declarative fashion.

# Apache OpenWhisk

## Packages

Packages encapsulate external services in a reusable manner and assemble them into triggers and actions.

# Apache OpenWhisk

## Supported Languages

**JS/NodeJS 8**

**Swift 3**

**Java**

**Docker / Binary**

**Python 3**

**PHP**

**Go**

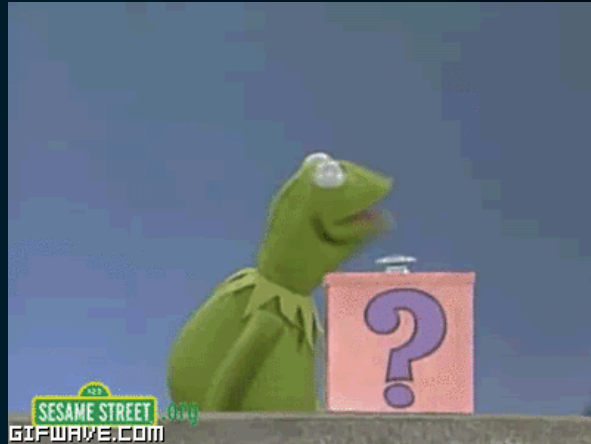
**Scala**

**Rust**

**Haskell**



# Questions?



Source: [giphy.com](https://giphy.com)

# Hands-on Workshop

[ibm.biz/chatbot-serverless](https://ibm.biz/chatbot-serverless)

# Questions?



Source: [giphy.com](https://giphy.com)

# Thank you

Useful links:

[IBM Code](#)

[London Meetup](#)

[CognitiveClass.ai](#)

[Register to IBM Cloud](#)

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[ibm.biz/chatbot-serverless](https://ibm.biz/chatbot-serverless)

