Serverless Event-driven. **Cloud Functions**

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EDEM
Escuela de Empresarios

GFT

About me

Data Engineer at GFT focus on BigData and IoT architectures on Google Cloud Platform.

Javier Briones
Data Engineer at GFT

Agenda

01 Event-Driven architecture

02 Event-Driven architecture in GCP.
Cloud Functions

03 Success stories. GFT

04 Hands-on. Demo

Event-driven

Architecture

01

Event-driven Architecture

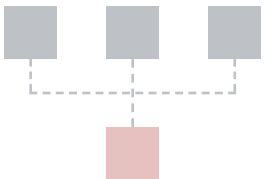
Definition

An event-driven architecture uses events to trigger and communicate between decoupled services and is common in modern applications built with microservices. An event is a change in state, or an update, like an item being placed in a shopping cart on an e-commerce website.

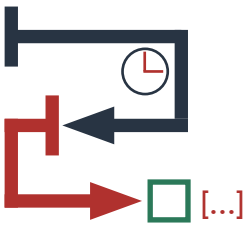
Event-driven architectures have three key components: event producers, event routers, and event consumers. A producer publishes an event to the router, which filters and pushes the events to consumers. Producer services and consumer services are decoupled, which allows them to be scaled, updated, and deployed independently.

Serverless Architecture

Serverless offerings provides the best solution for microservices-based architectures and event-driven architectures.



Big Data processing



Event-driven Architecture

Traffic spikes

But today...
let's dive
into FaaS

FaaS

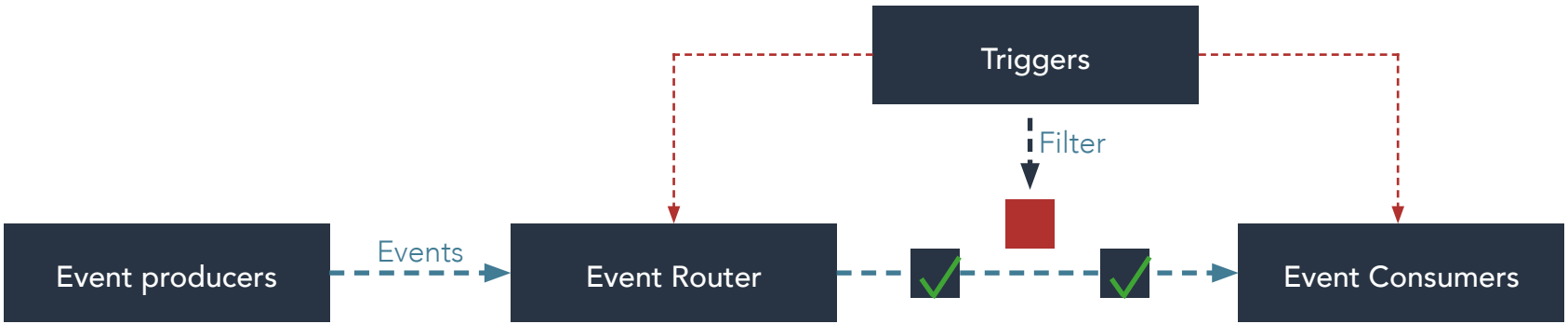
Event-driven Architecture

Function as a Service is a kind of cloud computing services that allows developers to build, compute, run and manage application packages as functions without having maintain their own infrastructure.

FaaS is an event-driven execution model that runs in stateless containers and those functions manage server-side logic and state through the use of services from cloud provider.

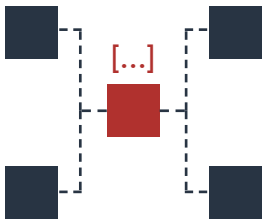
FaaS

Event-driven Architecture

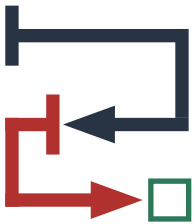


FaaS

Benefits of Event-driven architecture



Lower dependency



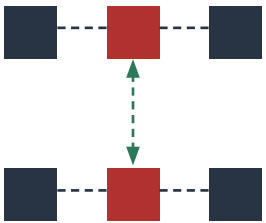
Asyncronous events

Lower cost

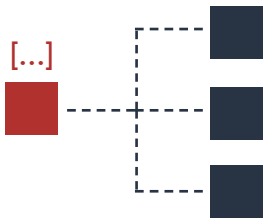
...When FaaS?

Event-driven common use cases

Monitor and receive alerts



Interoperability stack



One event for many consumers

...FaaS popular examples

Main cloud providers

AWS Lambda

Cloud Functions

Azure Functions

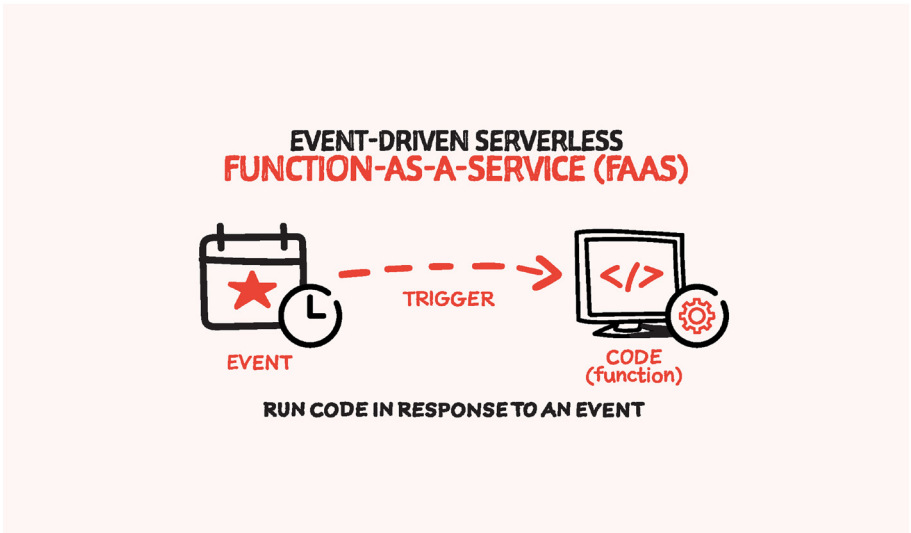
Event-driven in GCP

Cloud Functions

02

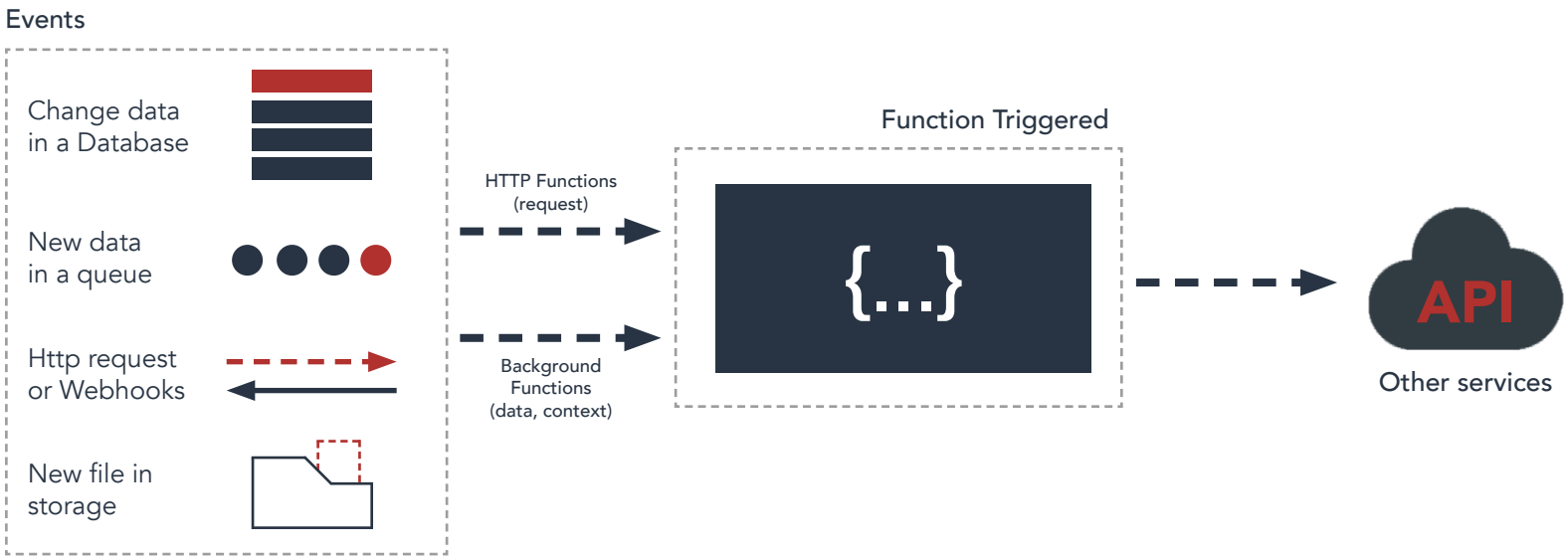
Cloud Functions

Basics



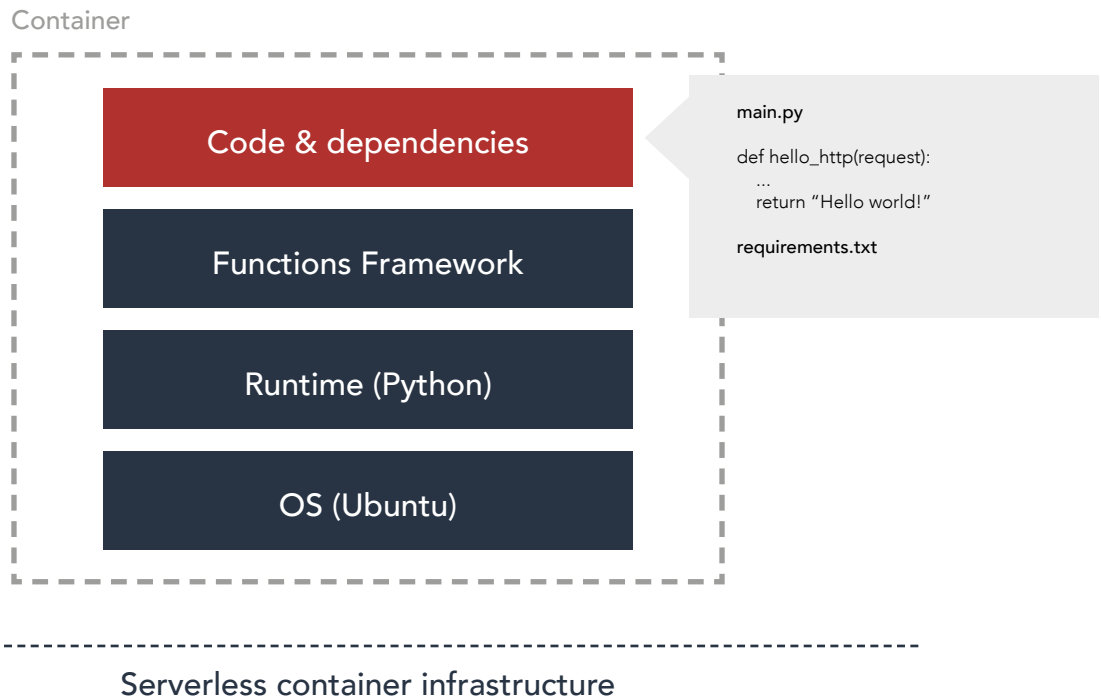
Cloud Functions

Basics



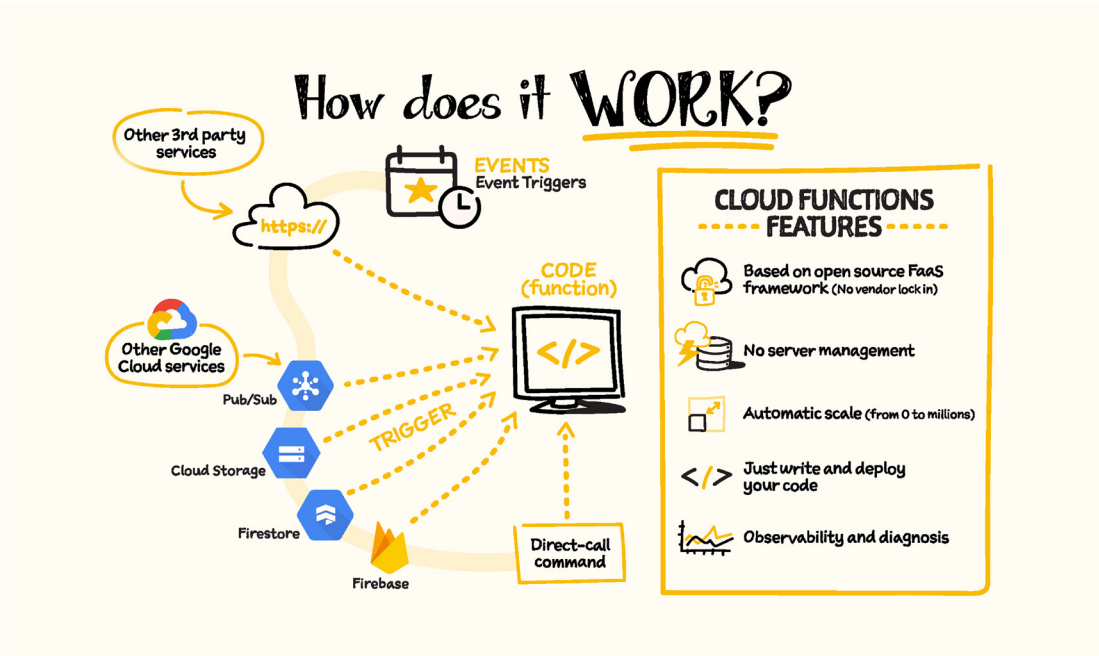
Cloud Functions

Basics



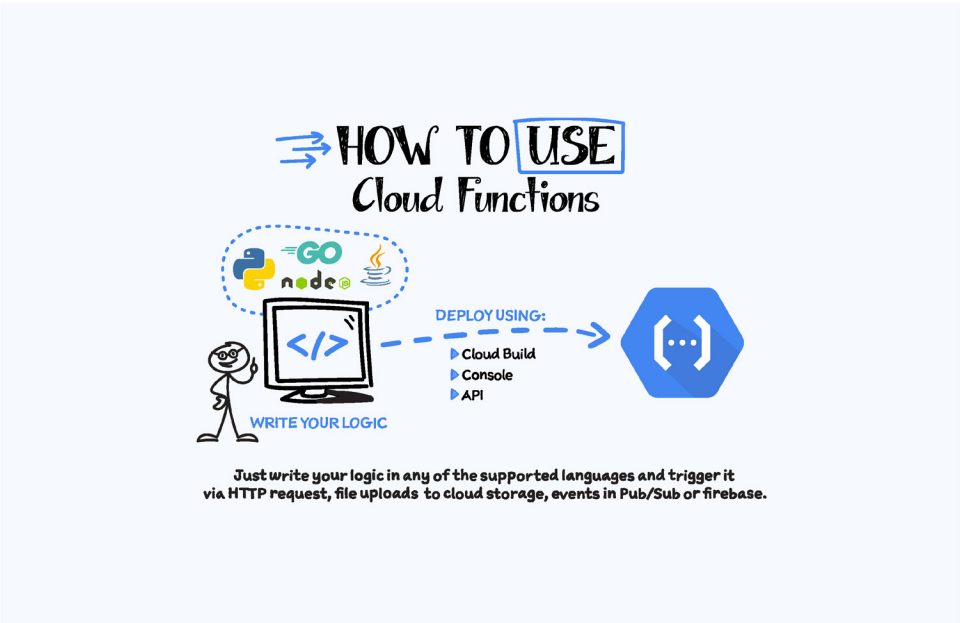
Cloud Functions

how does Cloud Functions works?



Cloud Functions

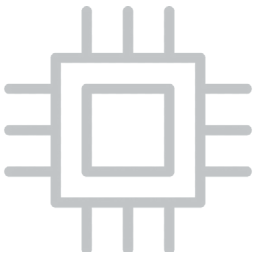
how to use Cloud Functions?



Cloud Functions

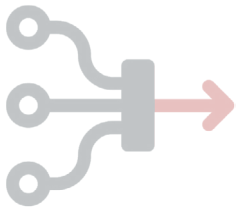
Common use cases. Webhooks

Webhooks



IoT

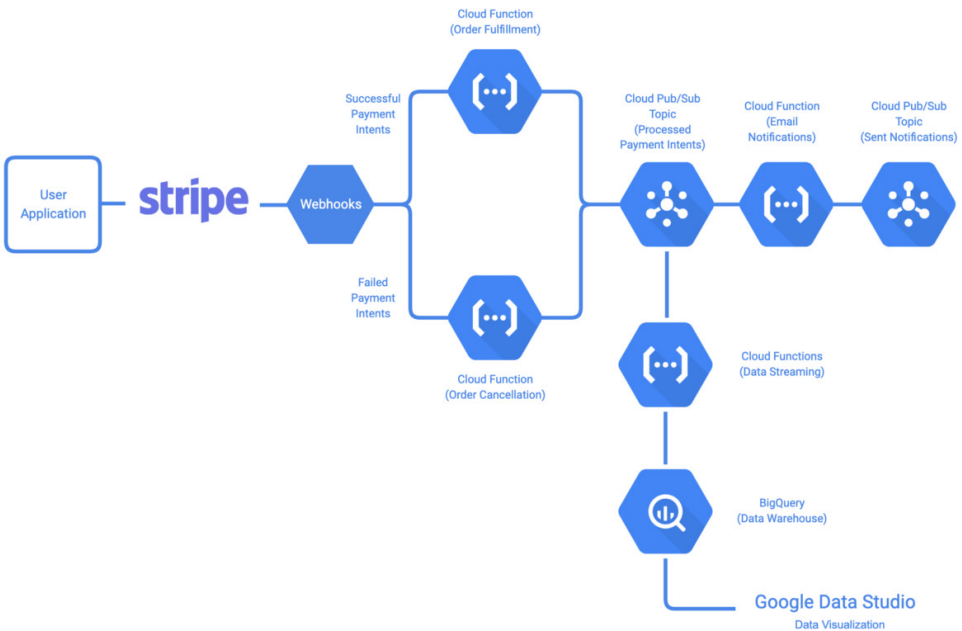
AI Models



Stream Analytics

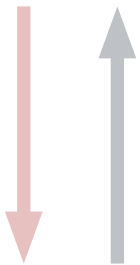
Cloud Functions

Common use cases. Webhooks

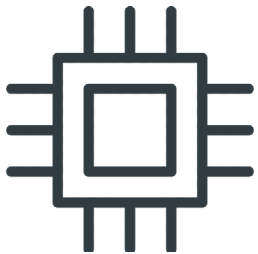


Cloud Functions

Common use cases. Internet of Things

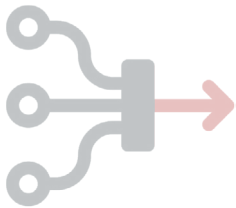


Webhooks



IoT

AI Models



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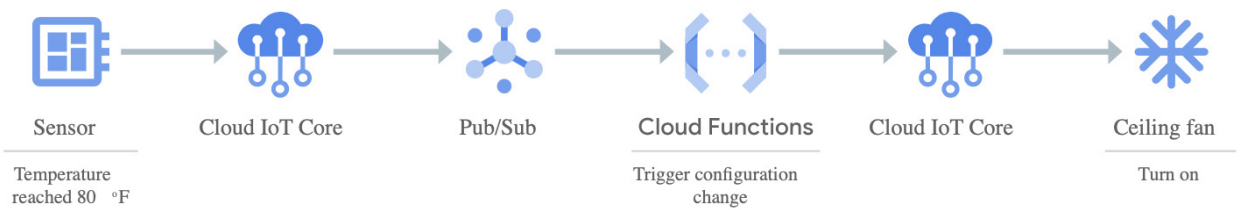
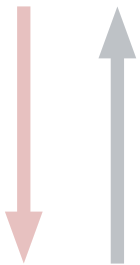


Cloud Functions

Common use cases. Artificial Intelligence



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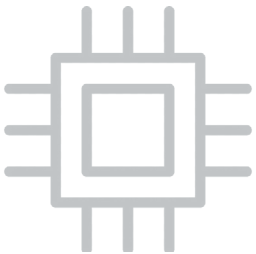

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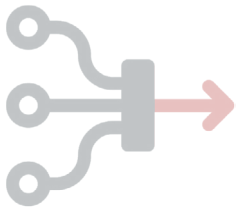
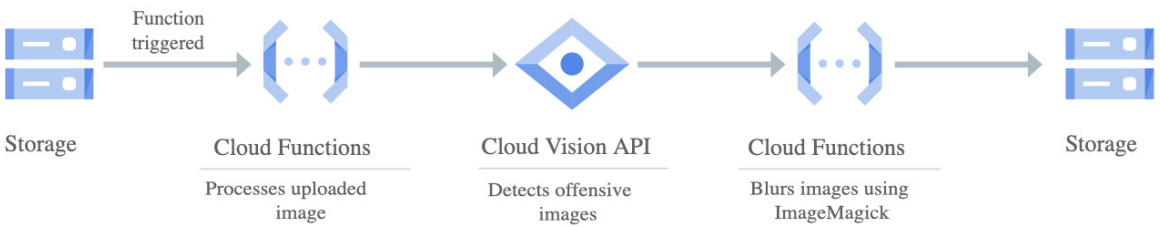


Stream Analytics

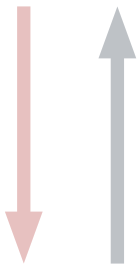
Cloud Functions

Common use cases. Artificial Intelligence

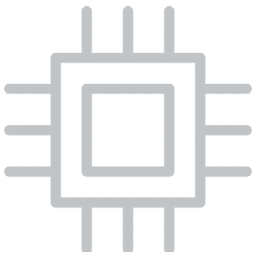


Cloud Functions

Common use cases. Data processing



Webhooks



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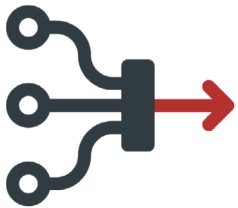
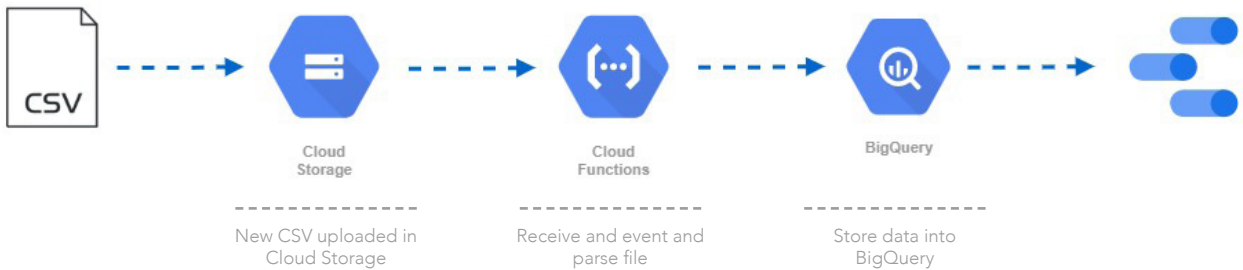


Stream Analytics

Cloud Functions

Common use cases. Data processing



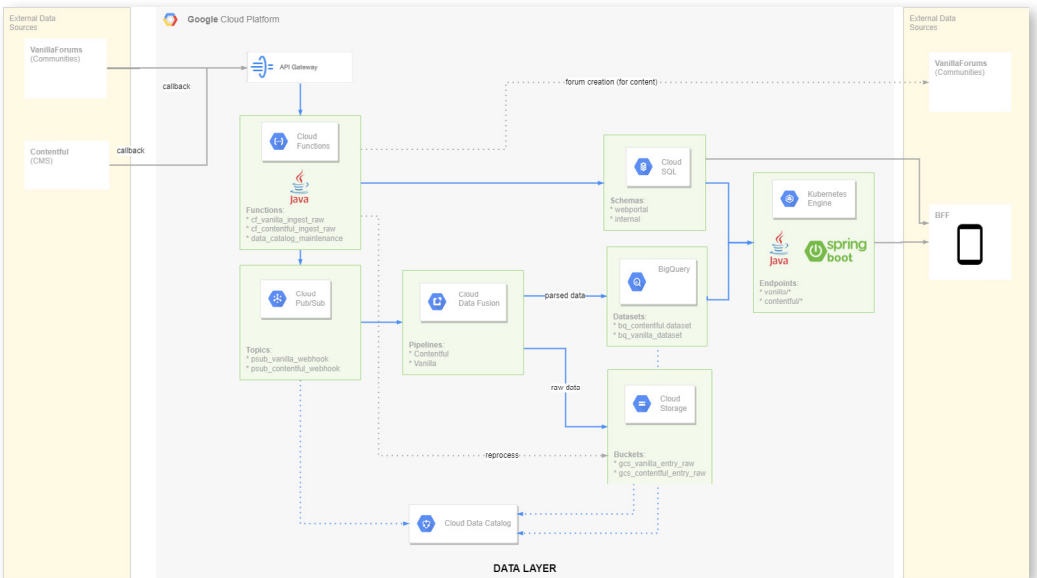
Success Stories

03

GFT

Success stories

Data architecture for a new swiss bank



Let's take a look at UI!

Hands-on Demo

04

Demo

IoT real-time architecture

Case description

Wake is a startup focused on sustainable architecture. One of its many challenges is reducing electricity consumption in buildings.

To achieve this challenge, they have launched a RFP to monitor the temperature and humidity in order to regulate the optimal conditions of our homes.

Business challenges

- Part 01 | Monitoring the registered temperature and humidity and display them on a dashboard to help stakeholders to make decisions.

- **Part 02 | Regulate climate control when an inappropriate temperature range is registered during a certain period.**

Quiz Time!

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