

API for *robots*

ApiConf 2018 `{ }`

Cognome..... AUTOMIUM

Nome.....

nato il.....

(atto n..... P..... S.....)

a..... (.....)

Cittadinanza.....

Residenza.....

Via.....

Stato civile.....

Professione..... DEVOPS TEAM @ ENTER

CONNOTATI E CONTRASSEGNI SALIENTI

Statura.....

Capelli.....

Occhi.....

Segni particolari.....

.....

.....

Firma del titolare.....

..... *li*

<p>Impronta del dito indice sinistro</p> <div style="border: 1px solid black; height: 100px; width: 100%;"></div>	<p>IL SINDACO</p> <div style="border: 1px solid black; width: 80px; height: 80px; margin: 0 auto;"></div>
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Cognome..... **MINZONI**

Nome..... **FEDERICO**

nato il.....

(atto n..... P..... S.....)

a..... (.....)

Cittadinanza.....

Residenza.....

Via.....

Stato civile.....

Professione..... **DEVOPS TEAM @ ENTER**

CONNOTATI E CONTRASSEGNI SALIENTI

Statura.....

Capelli.....

Occhi.....

Segni particolari.....

..... **twitter: @fminzoni**

..... **github: f-minzoni**



Firma del titolare.....

..... *li*

Impronta del dito indice sinistro	IL SINDACO
	



AIBO - SONY CORPORATION

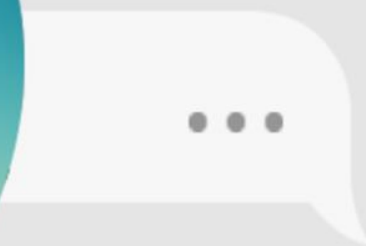
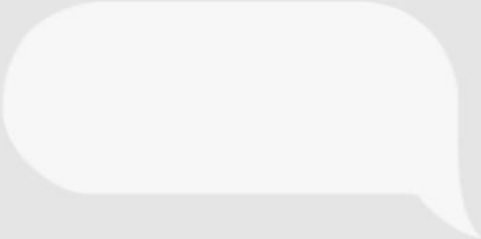


KOFUKUJI TEMPLE - ISUMIONY (JP)

Zo



Let's chat



Chat on





*“Hi, I'd like to reserve a table
for Wednesday, the 7th.”*





ASSEMBLY LINE - TESLA FACTORY



VITRA DESIGN MUSEUM

**“You’ll be paid in the future based
on how well you work with robots”**

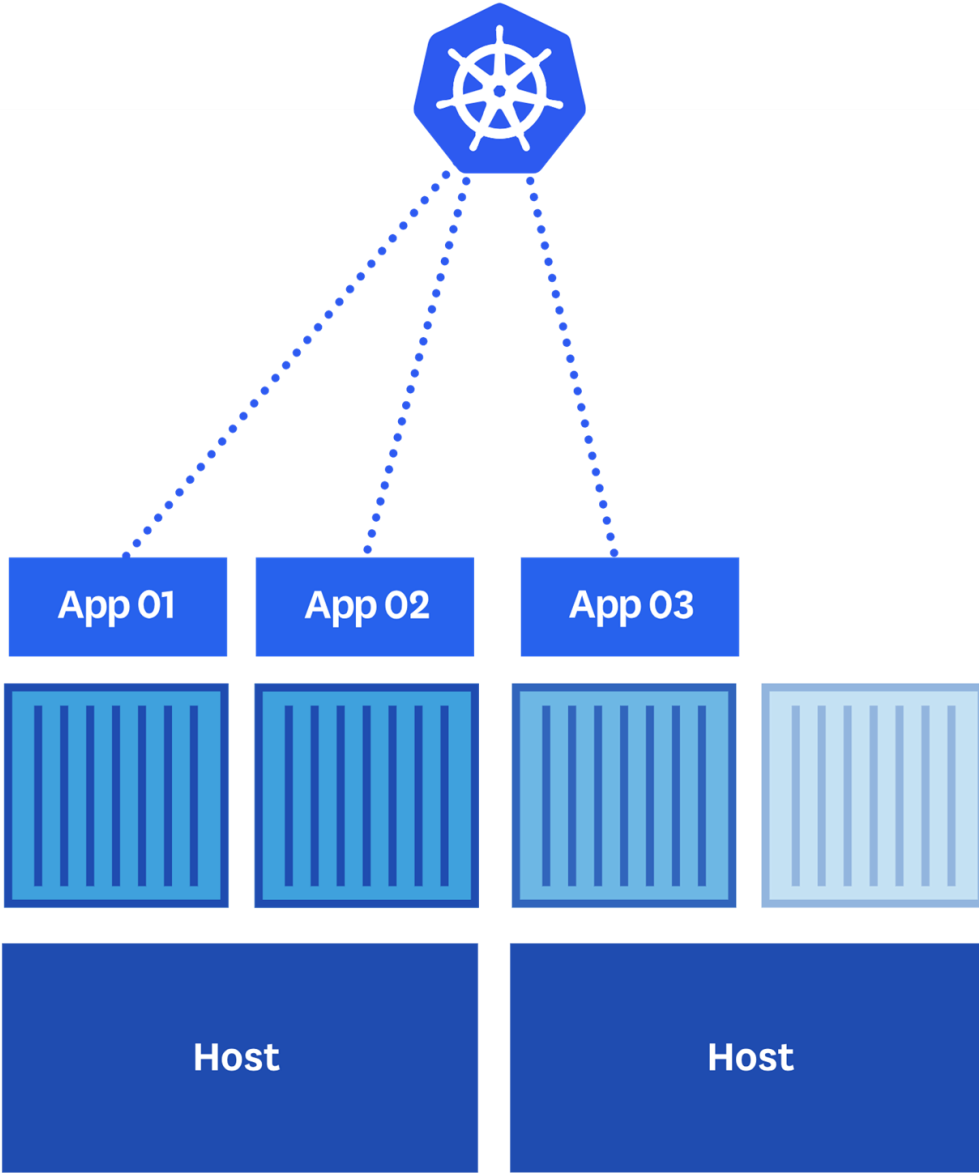
KEVIN KELLY



CIBERNETICA



kubernetes





Automium & Enter Cloud Suite



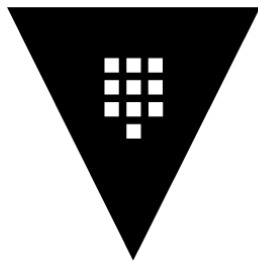
HashiCorp

Consul



HashiCorp

Terraform



HashiCorp

Vault

DEMO



Kubernetes



Serverless



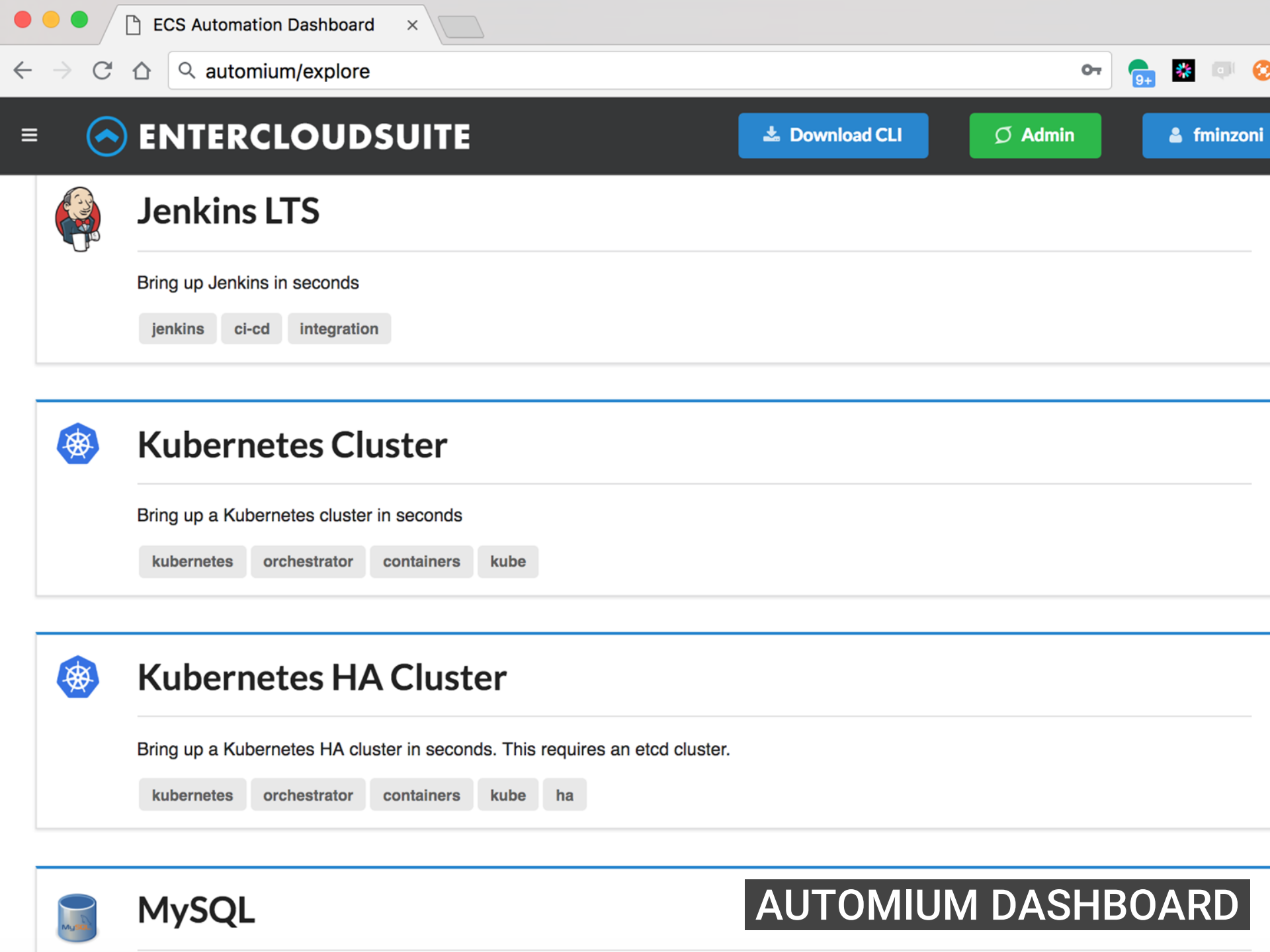
Machine Learning

DEMO

1. Setup Kubernetes

2. Setup OpenFaaS

3. Deploy Function



Jenkins LTS

Bring up Jenkins in seconds

jenkins

ci-cd

integration



Kubernetes Cluster

Bring up a Kubernetes cluster in seconds

kubernetes

orchestrator

containers

kube



Kubernetes HA Cluster

Bring up a Kubernetes HA cluster in seconds. This requires an etcd cluster.

kubernetes

orchestrator

containers

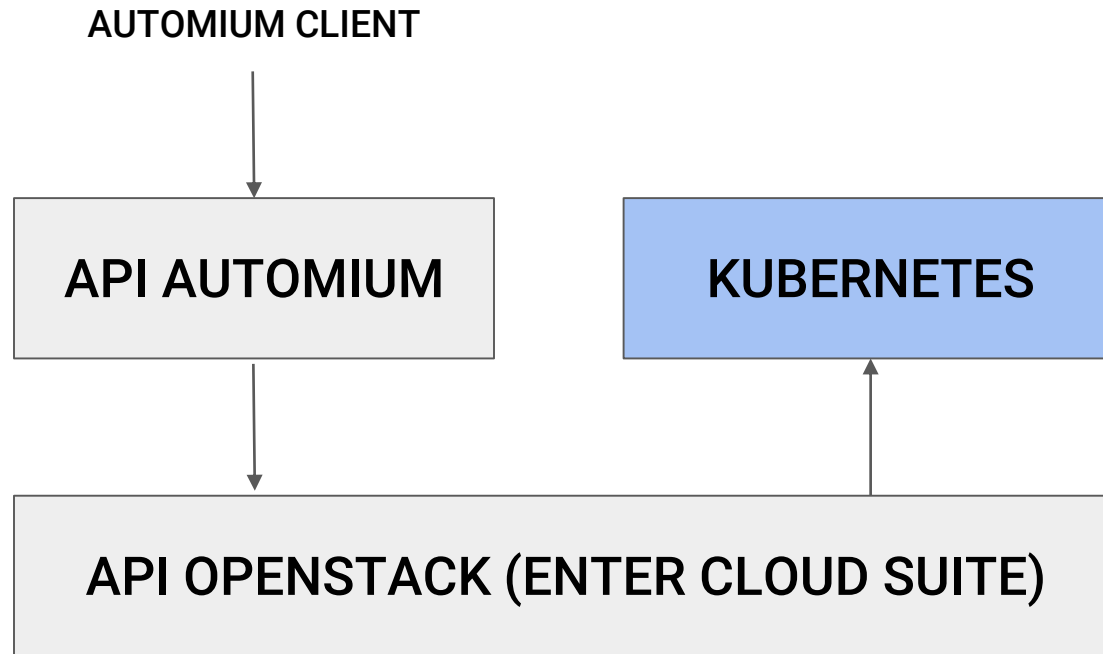
kube

ha

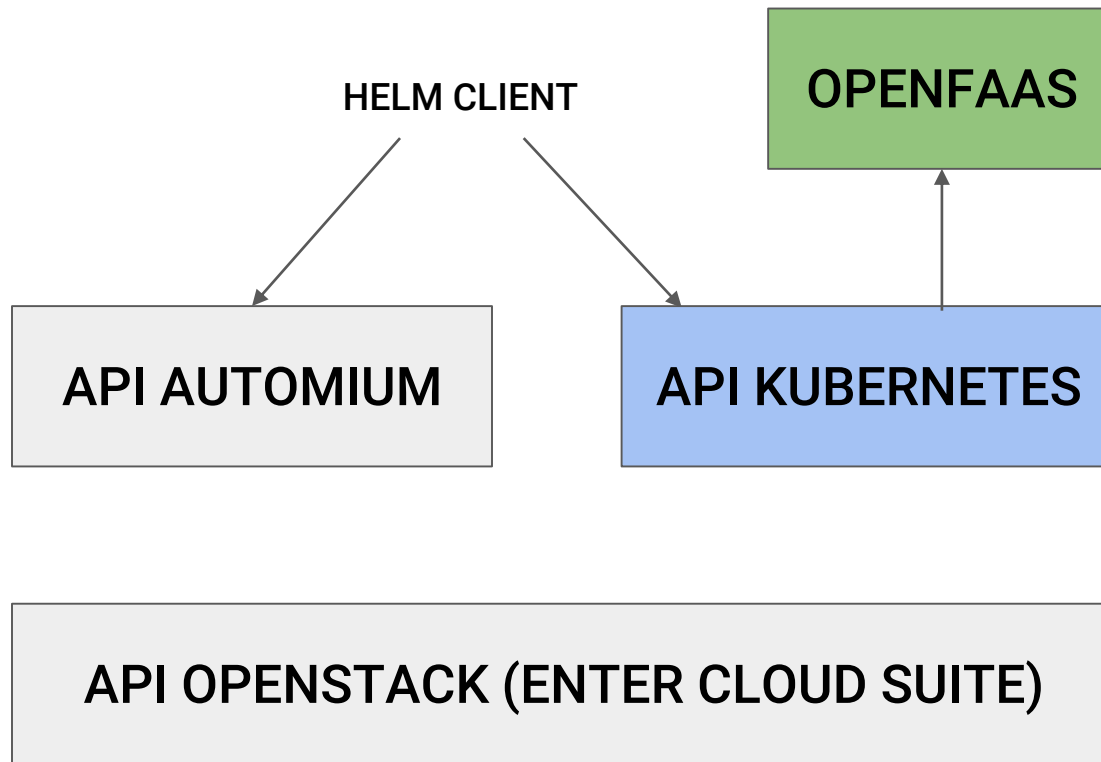


MySQL

SETUP KUBERNETES



SETUP OPENFAAS



Functions as a Service

API Gateway

Function Watchdog



Prometheus



Swarm

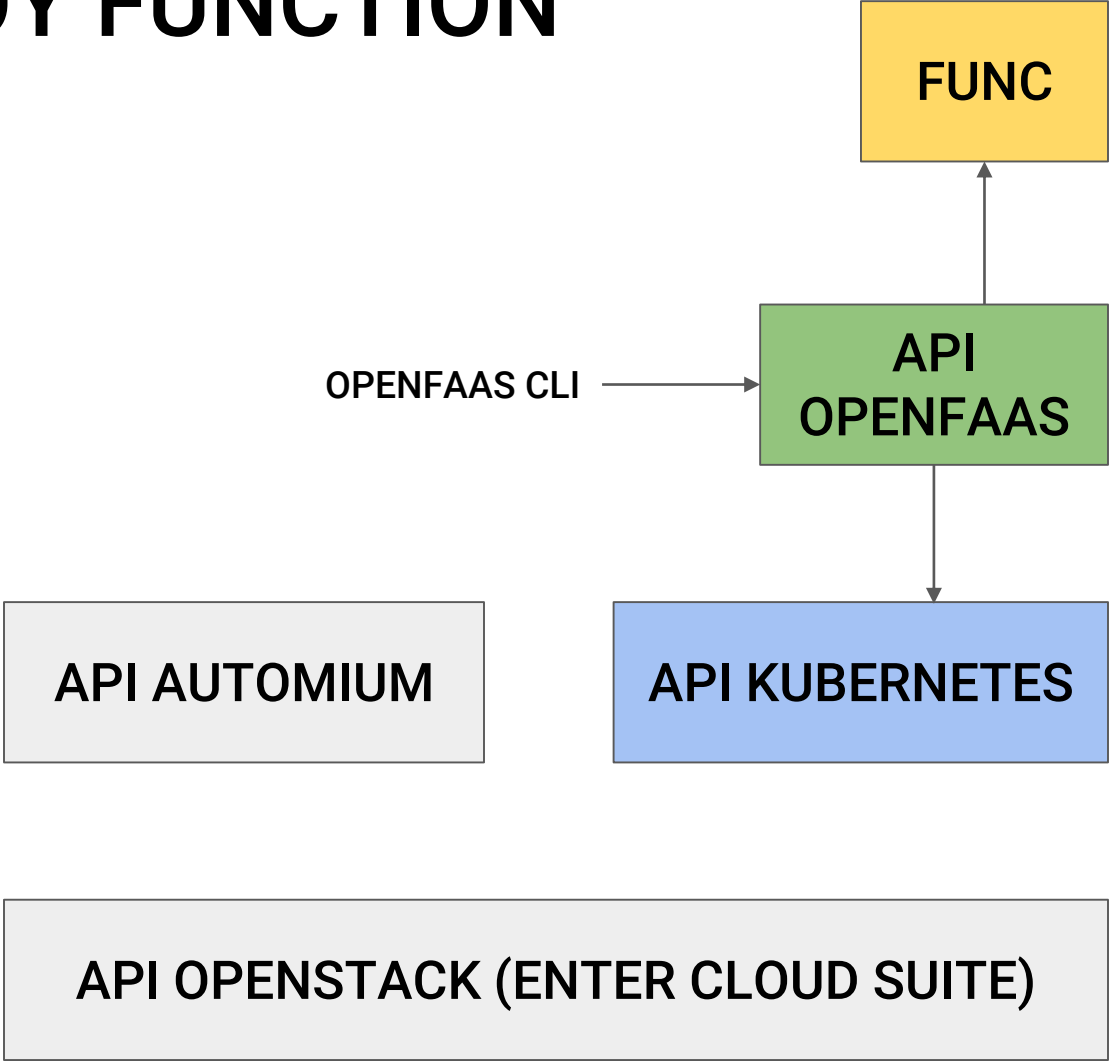


Kubernetes



docker

DEPLOY FUNCTION





Deploy New Function

Search for Function

sentimentanalysis

sentimentanalysis

Status	Replicas	Invocation count
Ready	1	3

Image
functions/sentimentanalysis

Invoke function

INVOKE

Text JSON Download

Request body

APICConf is the best event ever

Response status	Round-trip (s)
200	1.233

Response body

```
{
  "polarity": 1,
  "sentence_count": 1,
  "subjectivity": 0.3
}
```



Deploy New Function

Search for Function

sentimentanalysis

sentimentanalysis

Status	Replicas	Invocation count
Ready	1	25

Image
functions/sentimentanalysis

Invoke function

INVOKE

Text JSON Download

Request body

I want to go to the APIConf

Response status	Round-trip (s)
200	0.753

Response body

```
{
  "polarity": 0,
  "sentence_count": 1,
  "subjectivity": 0
}
```


HIGHLIGHTS



Declarative /API-driven

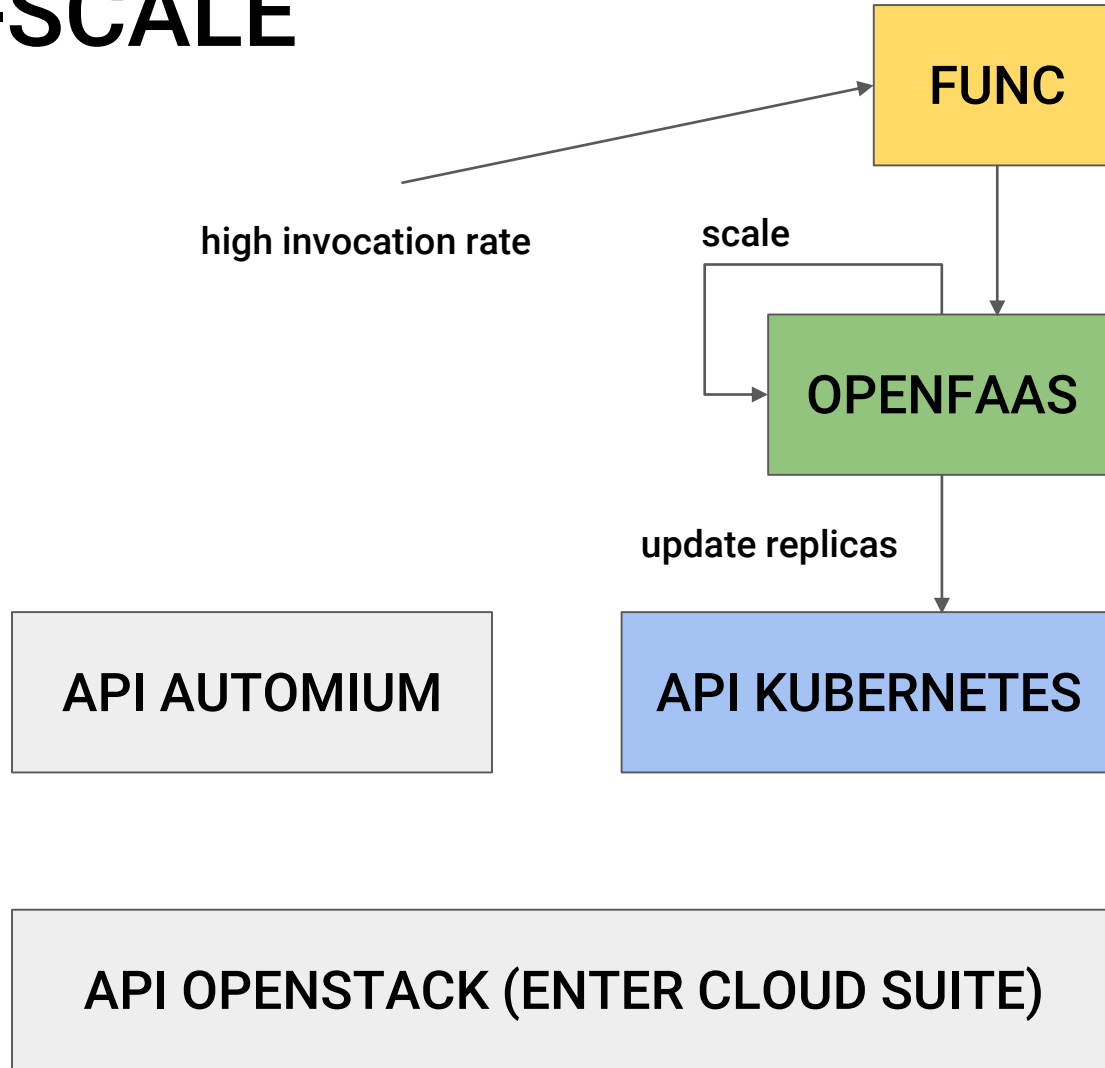


Resilient services



**Auto-scales as demand
increases**

AUTO-SCALE



Alerts

 Show annotations

APIHighInvocationRate (0 active)

```
alert: APIHighInvocationRate
expr: sum
  by(function_name) (rate(gateway_function_invocation_total{code="200"}[10s]))
  > 5
for: 5s
labels:
  service: gateway
  severity: major
  value: '{{ $value }}'
annotations:
  description: High invocation total on "{{ $labels.instance }}"
  summary: High invocation total on "{{ $labels.instance }}"
```

Targets

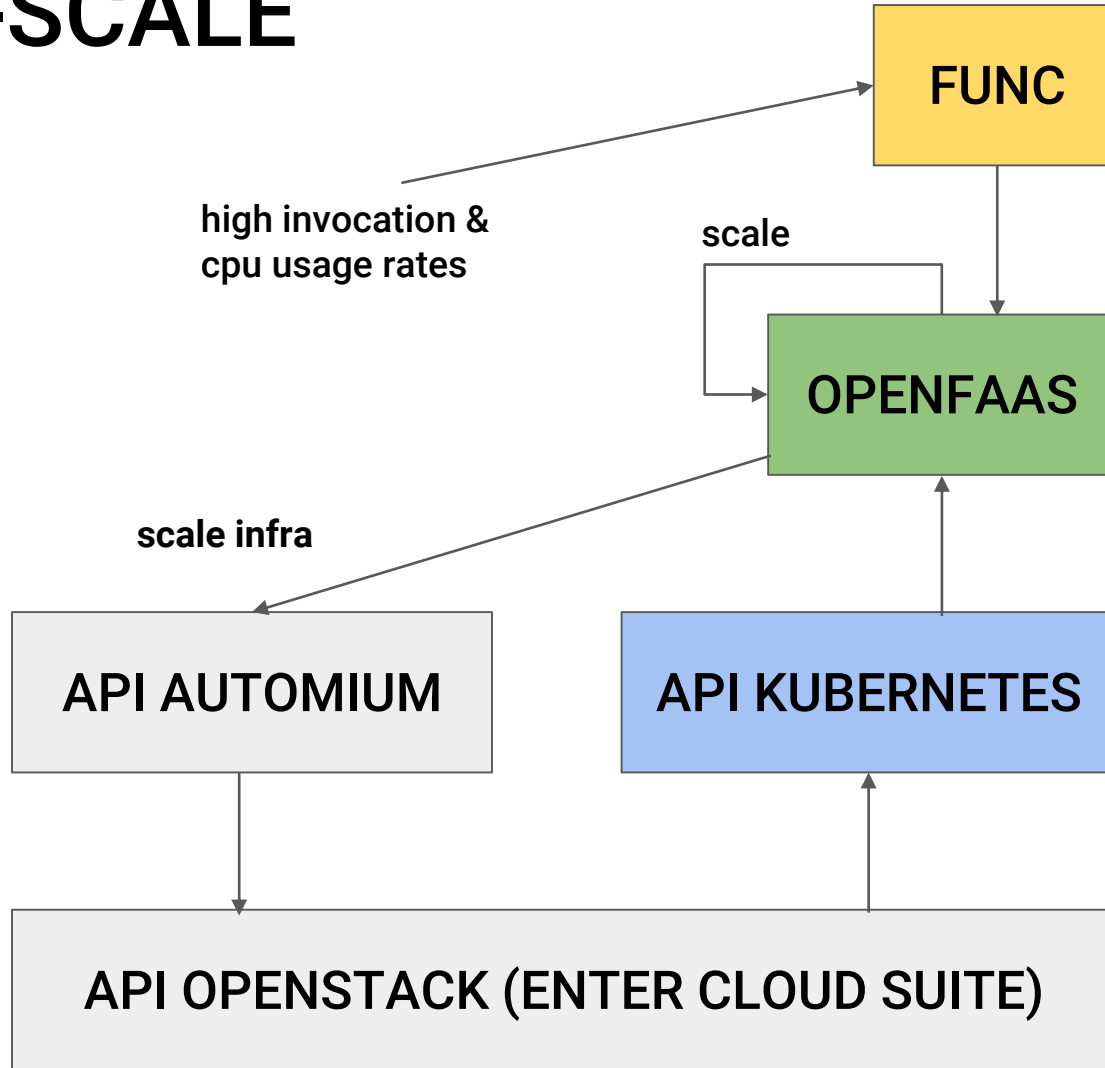
 Only unhealthy jobs

gateway (1/1 up) [show less](#)

Endpoint	State	Labels
http://10.111.69.29:8080/metrics	UP	instance="10.111.69.29:8080"

prometheus (1/1 up) [show less](#)

AUTO-SCALE



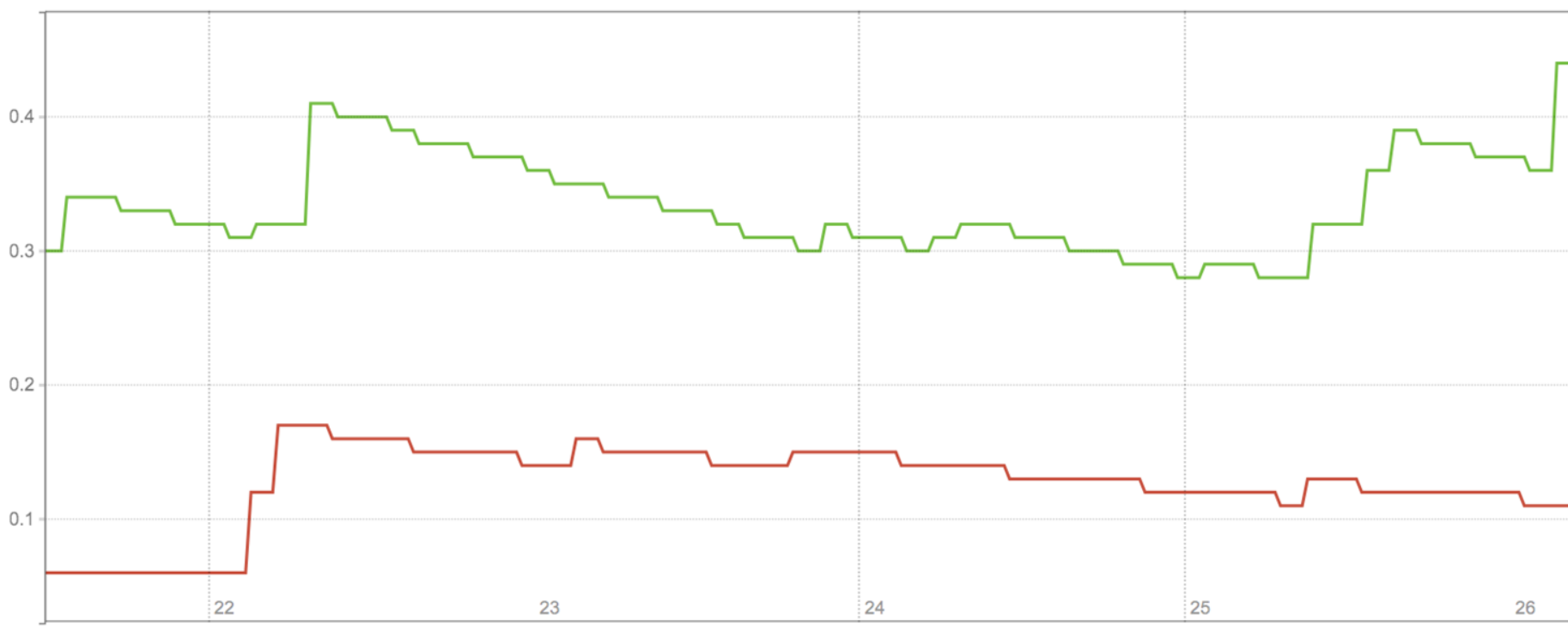
Enable query history

node_load5{job="k8s"}

Execute - insert metric at cursor -

Graph Console

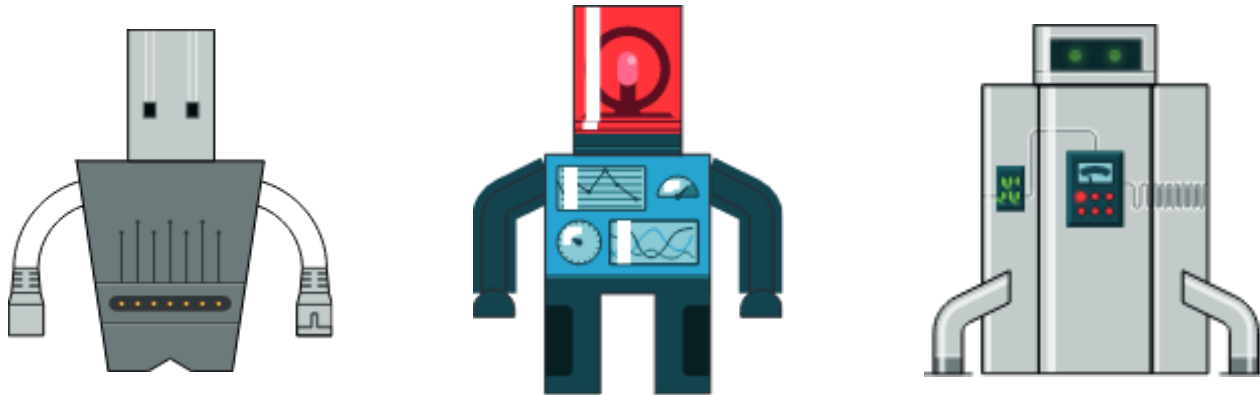
5m Res. (s) stacked



node_load5(instance="10.2.0.7:9100",job="k8s")
node_load5(instance="10.2.0.13:9100",job="k8s")

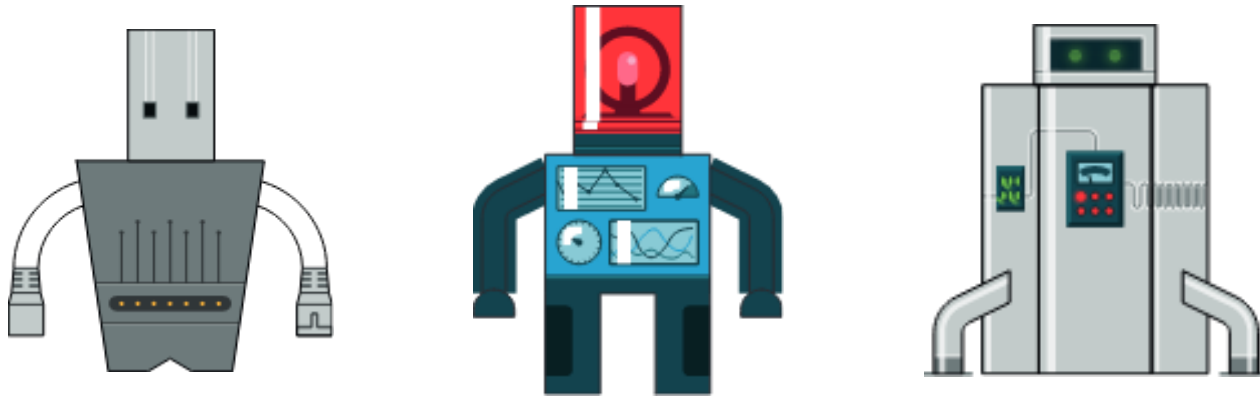
Add Graph

LET THE ROBOTS TAKE OVER



www.entercloudsuite.com/it/automium

THANK YOU



Federico Minzoni | @fminzoni