Uptime Introduction

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Agenda

What is the Elastic Stack?

Installing

Heartbeat Deep Dive

Uptime in the Kibana UI

Next steps

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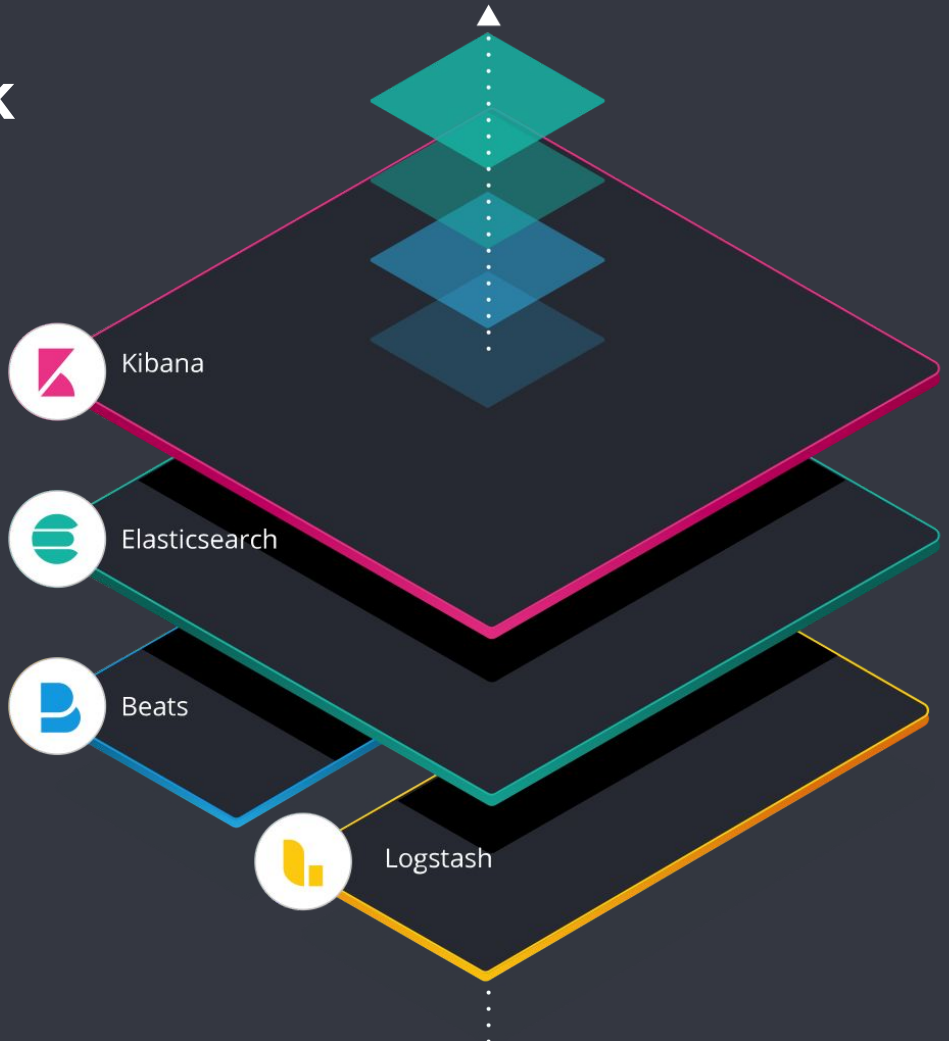
Elastic Stack



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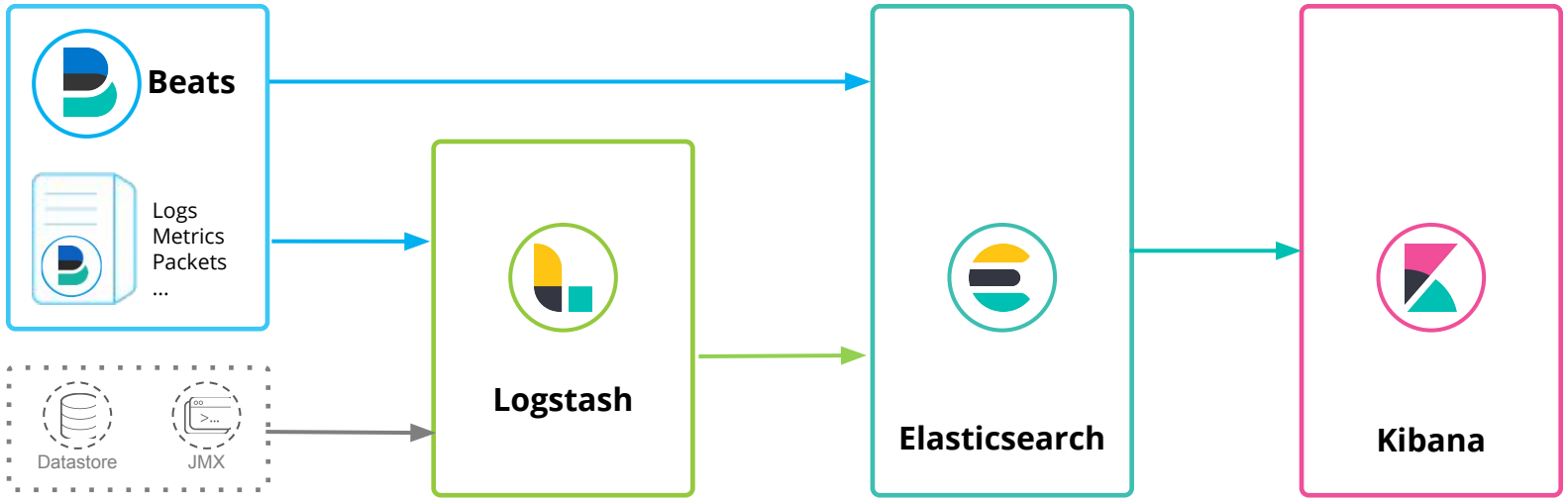
Elastic Stack - Data flows



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Observability with the Elastic Stack

- Logs
- Metrics
- APM
- Infrastructure
- **Uptime**

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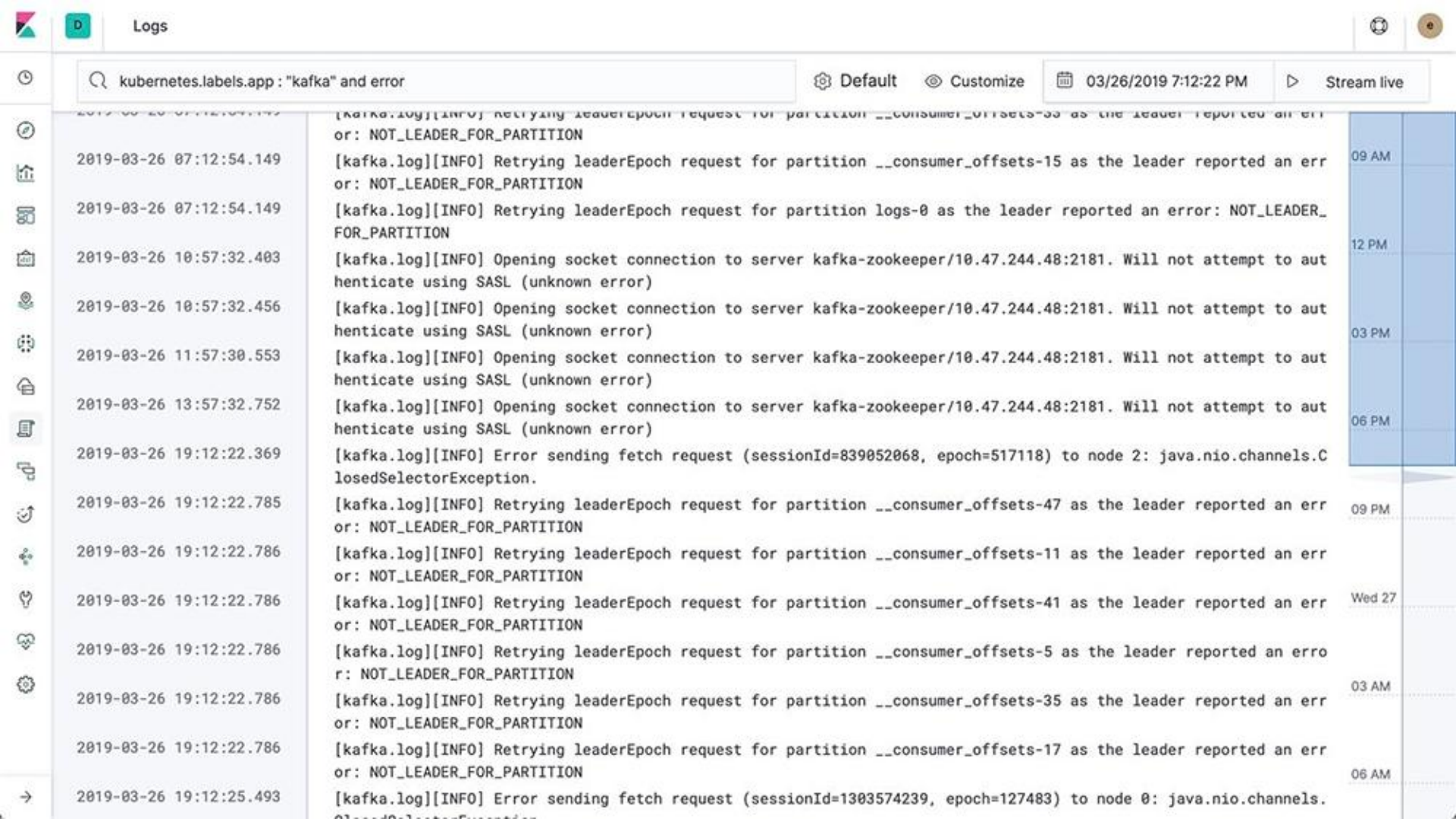
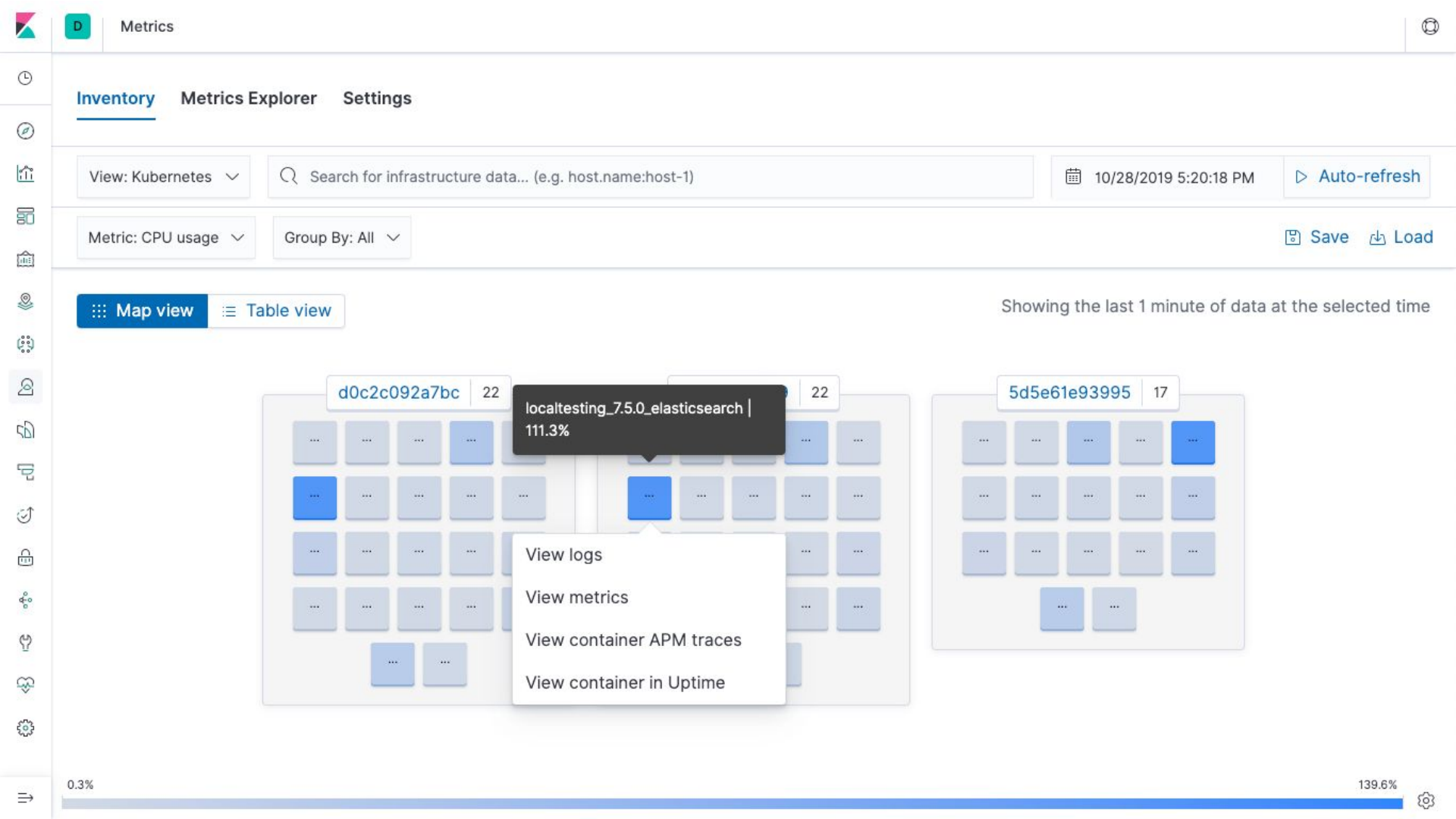
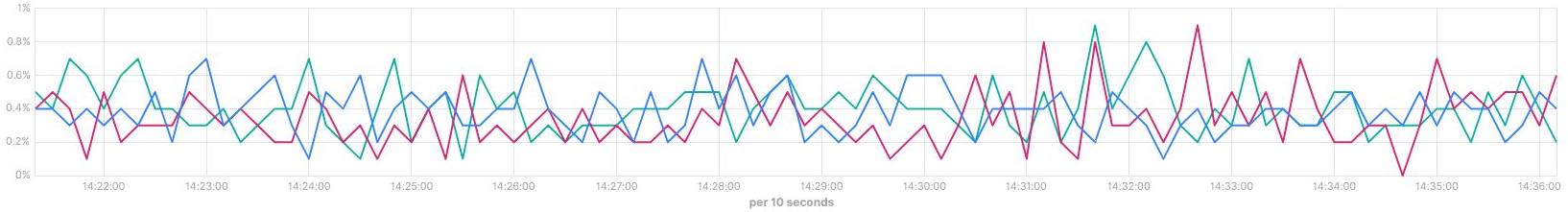

Logs
kubernetes.labels.app : "kafka" and error
Default
Customize
03/26/2019 7:12:22 PM
Stream live
or: NOT_LEADER_FOR_PARTITION
2019-03-26 07:12:54.149 [kafka.log][INFO] Retrying leaderEpoch request for partition __consumer_offsets-15 as the leader reported an error: NOT_LEADER_FOR_PARTITION
2019-03-26 07:12:54.149 [kafka.log][INFO] Retrying leaderEpoch request for partition logs-0 as the leader reported an error: NOT_LEADER_FOR_PARTITION
2019-03-26 10:57:32.403 [kafka.log][INFO] Opening socket connection to server kafka-zookeeper/10.47.244.48:2181. Will not attempt to authenticate using SASL (unknown error)
2019-03-26 10:57:32.456 [kafka.log][INFO] Opening socket connection to server kafka-zookeeper/10.47.244.48:2181. Will not attempt to authenticate using SASL (unknown error)
2019-03-26 11:57:30.553 [kafka.log][INFO] Opening socket connection to server kafka-zookeeper/10.47.244.48:2181. Will not attempt to authenticate using SASL (unknown error)
2019-03-26 13:57:32.752 [kafka.log][INFO] Opening socket connection to server kafka-zookeeper/10.47.244.48:2181. Will not attempt to authenticate using SASL (unknown error)
2019-03-26 19:12:22.369 [kafka.log][INFO] Error sending fetch request (sessionId=839052068, epoch=517118) to node 2: java.nio.channels.ClosedSelectorException.
2019-03-26 19:12:22.785 [kafka.log][INFO] Retrying leaderEpoch request for partition __consumer_offsets-47 as the leader reported an error: NOT_LEADER_FOR_PARTITION
2019-03-26 19:12:22.786 [kafka.log][INFO] Retrying leaderEpoch request for partition __consumer_offsets-11 as the leader reported an error: NOT_LEADER_FOR_PARTITION
2019-03-26 19:12:22.786 [kafka.log][INFO] Retrying leaderEpoch request for partition __consumer_offsets-41 as the leader reported an error: NOT_LEADER_FOR_PARTITION
2019-03-26 19:12:22.786 [kafka.log][INFO] Retrying leaderEpoch request for partition __consumer_offsets-5 as the leader reported an error: NOT_LEADER_FOR_PARTITION
2019-03-26 19:12:22.786 [kafka.log][INFO] Retrying leaderEpoch request for partition __consumer_offsets-35 as the leader reported an error: NOT_LEADER_FOR_PARTITION
2019-03-26 19:12:22.786 [kafka.log][INFO] Retrying leaderEpoch request for partition __consumer_offsets-17 as the leader reported an error: NOT_LEADER_FOR_PARTITION
2019-03-26 19:12:25.493 [kafka.log][INFO] Error sending fetch request (sessionId=1303574239, epoch=127483) to node 0: java.nio.channels.
09 AM
12 PM
03 PM
06 PM
09 PM
Wed 27
03 AM
06 AM


D
Metrics
Inventory
Metrics Explorer
Settings
View: Kubernetes
Search for infrastructure data... (e.g. host.name:host-1)
10/28/2019 5:20:18 PM
Auto-refresh
Metric: CPU usage
Group By: All
Save
Load
Map view
Table view
Showing the last 1 minute of data at the selected time
d0c2c092a7bc
22
localtesting_7.5.0_elasticsearch
111.3%
22
5d5e61e93995
17
View logs
View metrics
View container APM traces
View container in Uptime
0.3%
139.6%

Save Share Inspect Refresh

Last 15 minutes Show dates Refresh

Time Series Metric Top N Gauge Markdown Table



Auto apply

The changes will be automatically applied.

Data Panel options Annotations

avg(docker.cpu.core.0.pct)

Metrics Options

Aggregation: Average

Field: docker.cpu.core.0.pct

Group by: Everything

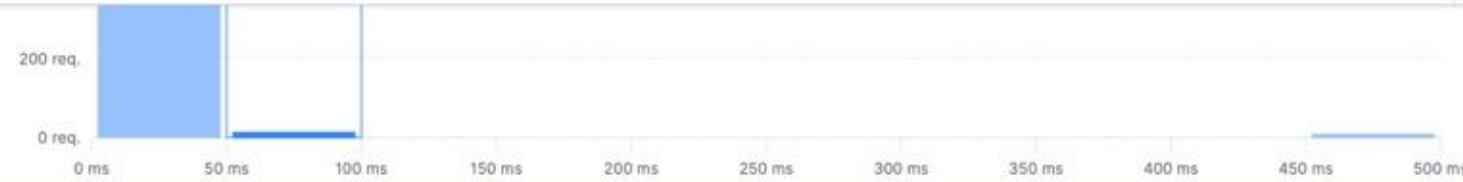
avg(docker.cpu.core.1.pct)

Metrics Options

Aggregation: Average

Field: docker.cpu.core.1.pct

Group by



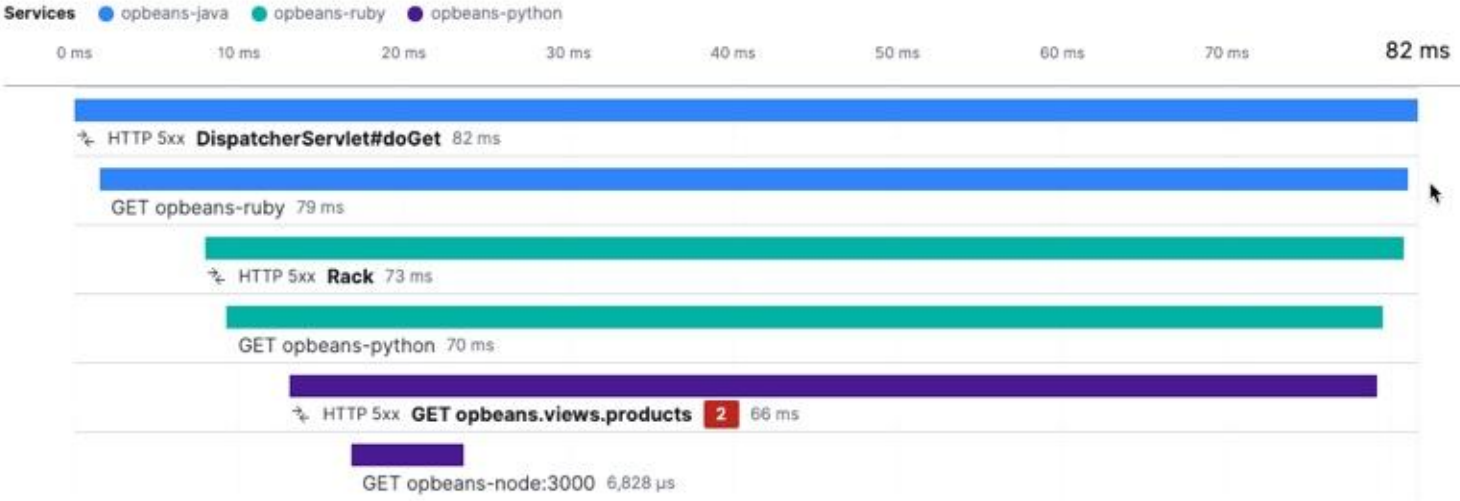
Trace sample

Actions

View full trace

16 minutes ago | 82 ms (89.9% of trace) | GET http://opbeans-java:3000/api/products | 500 Internal Server Error | 2 Errors | Other

Timeline | Metadata



Uptime in 1 minute

- Metrics, Logs, APM == Internal application state
- User perception and SLAs == External application state
- Host reachability
- Service reachability
- Service response
- Response times outside of your data center?
- TCP connection durations, load balancing, TLS handshake duration

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Overview

Last 15 minutes | Show dates | Refresh

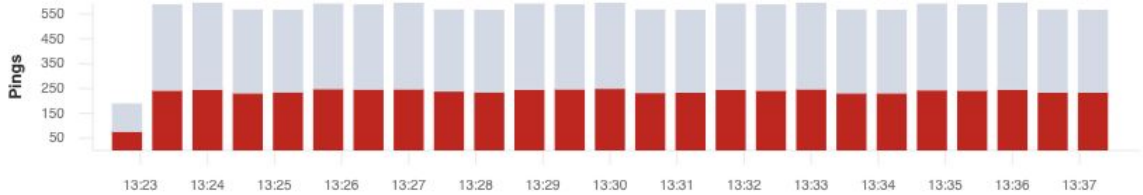
Search monitor IDs, names, and protocol types...

Up | Down | Location 3 | Port 7 | Scheme 3

12/33 monitors are down

- Down 12
- Up 21

Pings over time



Monitor status

Status	Name	URL	Downtime history	Integrations
Down a few seconds ago	UseCases	https://www.elastic.co/use-cases/		
Up a few seconds ago	Unnamed - auto-http-0X14D5C52E77FA69FF	https://www.elastic.co/		
Up a few seconds ago	Just Elastic	https://www.elastic.co/		
Down a few seconds ago	NodeJS	http://opbeans-node:3000/api/customers		
Down	NodeJS	http://opbeans-		

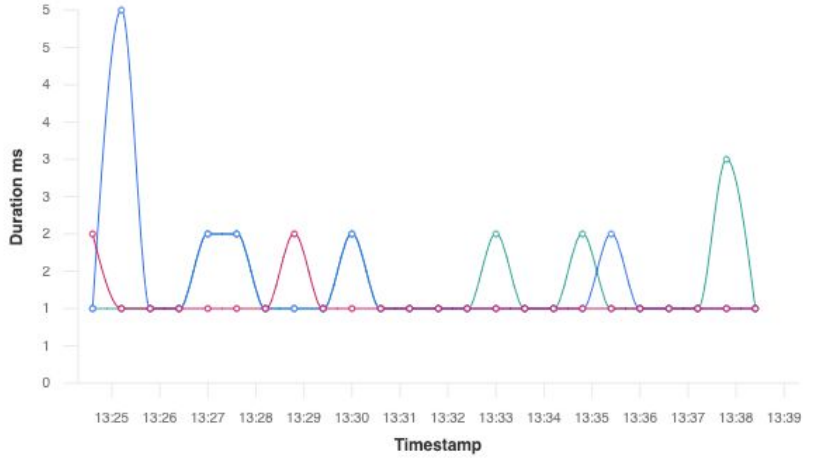
Service Monitor

Last 15 minutes | Show dates | Refresh

auto-tcp-0X59D12A2A76D484B4

● Up tcp://8.8.8.8:53 1ms a few seconds ago

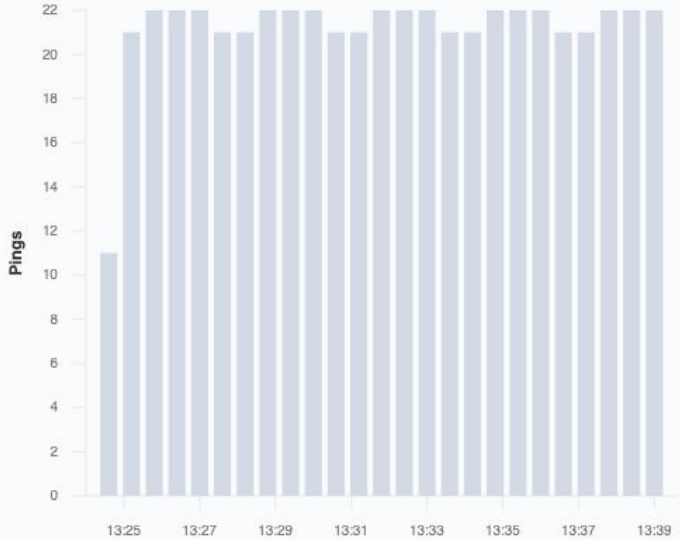
Monitor duration



nyc-dc1-rack1 1 uk-dc2-rack3 1

ca-dc2-rack1 1

Pings over time



History

Status: All

Location: All

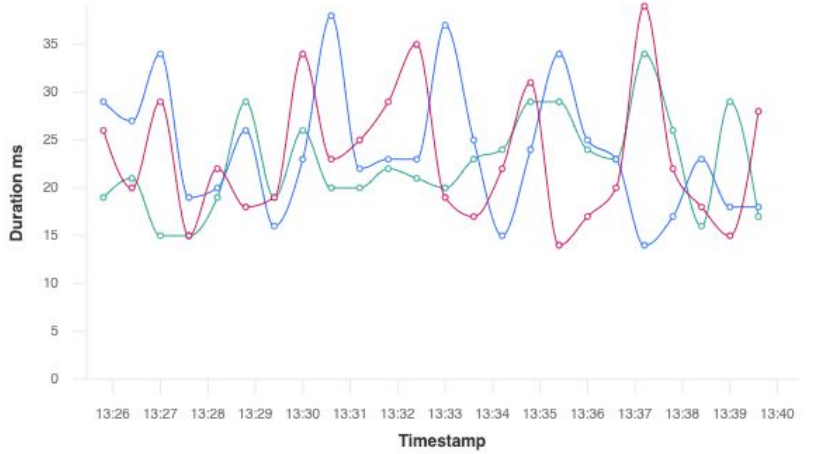
RubyAPI

Last 15 minutes | Show dates | Refresh

auto-http-0X690192E6E8794587-3e4ce6d2d3838a27

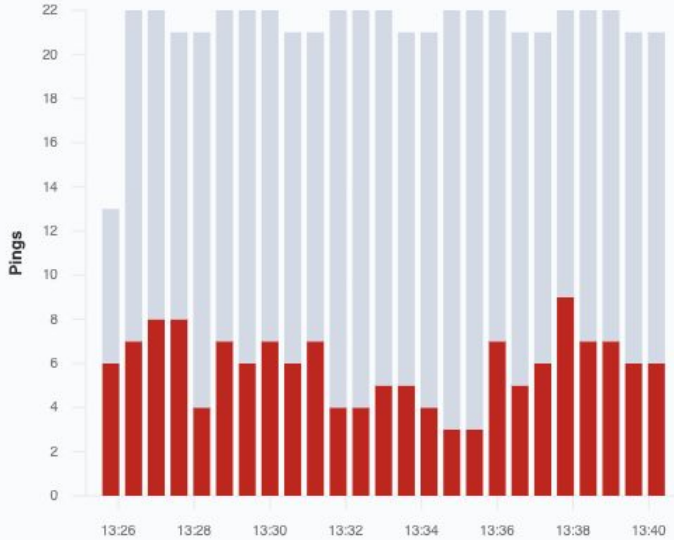
● Down http://opbeans-ruby:3000/api/customers/2 79ms a few seconds ago

Monitor duration



nyc-dc1-rack1	17	uk-dc2-rack3	18
ca-dc2-rack1	28		

Pings over time



History

Status: All

Location: All

Monitor status

Status	Name	URL	Downtime history	Integrations
Down a few seconds ago	UseCases	https://www.elastic.co/use-cases/		
Up a few seconds ago	Unnamed - auto-http-0X14D5C52E77FA69FF	https://www.elastic.co/		
Up a few seconds ago	Just Elastic	https://www.elastic.co/		
Down a few seconds ago	NodeJS	http://opbeans-node:3000/api/customers		
Down a few seconds ago	NodeJS	http://opbeans-node:3000/api/stats		
Down a few seconds ago	NodeJS	http://opbeans-node:3000/api/orders		
Down a few seconds ago	SecurityContents	https://www.elastic.co/products/siem		
Down a few seconds ago	Unnamed - auto-http-0X42CA05022552551B	http://172.21.0.10:3000		
Down a few seconds ago	Twitter Explained	https://twitter.com/		
Up a few seconds ago	RubyAPI	http://opbeans-ruby:3000/api/customers/2		

Heartbeat

- **Lightweight data shipper**
- Configure hosts, TCP/HTTP endpoints
- Periodically poll endpoints
- Index results into Elasticsearch

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Heartbeat

- Spool results into file in case of availability issues
- Resolve all IPs of a DNS name and check
- YAML based configuration can be checked into VCS
- Keystore to handle secrets/passwords

Installation Elasticsearch + Kibana

- Elastic Cloud
- ECE
- ECK
- Self-Hosted (docker, rpm, deb, tar.gz)

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Installation heartbeat

- Self-Hosted (docker, rpm, deb, tar.gz)
- Multiple instances
  - Cross data center
  - Cross continents
  - Where your customers are

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DEMO

Installation & Start

```
# https://www.elastic.co/downloads/beats/heartbeat
wget https://artifacts.elastic.co/downloads/beats/heartbeat/heartbeat-7.5.2-darwin-x86_64.tar.gz
# wget https://artifacts.elastic.co/downloads/beats/heartbeat/heartbeat-7.5.2-linux-x86_64.tar.gz
# wget https://artifacts.elastic.co/downloads/beats/heartbeat/heartbeat-7.5.2-windows-x86_64.zip

tar zxvf heartbeat-7.5.2-darwin-x86_64.tar.gz
cd heartbeat-7.5.2-darwin-x86_64
```


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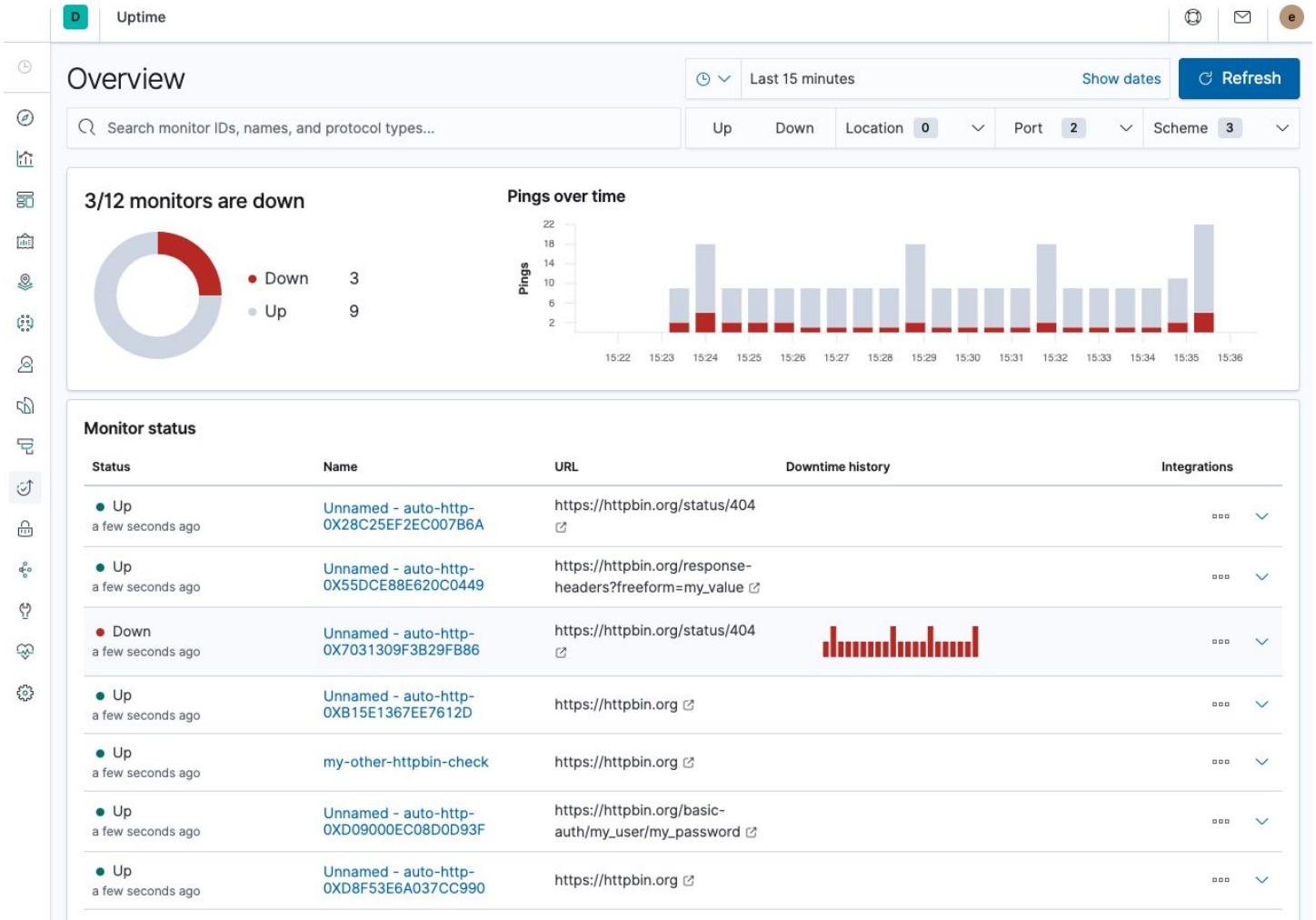

D
Uptime
Overview
Last 15 minutes
Show dates
Refresh
Search monitor IDs, names, and protocol types...
Up
Down
Location 0
Port 2
Scheme 3
3/12 monitors are down
Down 3
Up 9
Pings over time
Pings
22
18
14
10
6
2
15:22
15:23
15:24
15:25
15:26
15:27
15:28
15:29
15:30
15:31
15:32
15:33
15:34
15:35
15:36
Monitor status
Status
Name
URL
Downtime history
Integrations
Up
a few seconds ago
Unnamed - auto-http-0X28C25EF2EC007B6A
https://httpbin.org/status/404
Up
a few seconds ago
Unnamed - auto-http-0X55DCE88E620C0449
https://httpbin.org/response-headers?freeform=my_value
Down
a few seconds ago
Unnamed - auto-http-0X7031309F3B29FB86
https://httpbin.org/status/404
Up
a few seconds ago
Unnamed - auto-http-0XB15E1367EE7612D
https://httpbin.org
Up
a few seconds ago
my-other-httpbin-check
https://httpbin.org
Up
a few seconds ago
Unnamed - auto-http-0XD09000EC08D0D93F
https://httpbin.org/basic-auth/my_user/my_password
Up
a few seconds ago
Unnamed - auto-http-0XD8F53E6A037CC990
https://httpbin.org

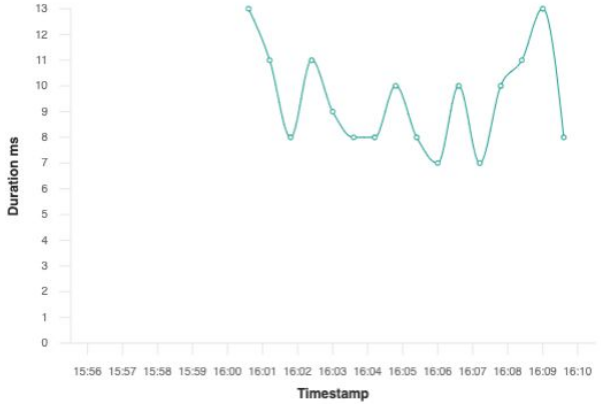
google-dns-tcp-check

Last 15 minutes | Show dates | Refresh

auto-tcp-0XFABD1BA9242B12B0

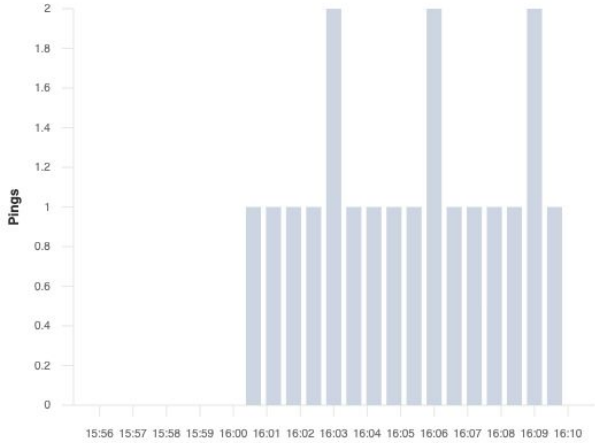
● Up tcp://8.8.8.8:53 8ms a few seconds ago

Monitor duration



● spinscale-at-home 8

Pings over time



History

Status: All | Location: All

Status	Location	IP	Duration	Error type
● Up Checked a few seconds ago	spinscale-at-home	8.8.8.8	8 ms	

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Summary

Summary

- External state knowledge is important
- Understand up/down states
- Understand response times
- Visualize changes over time

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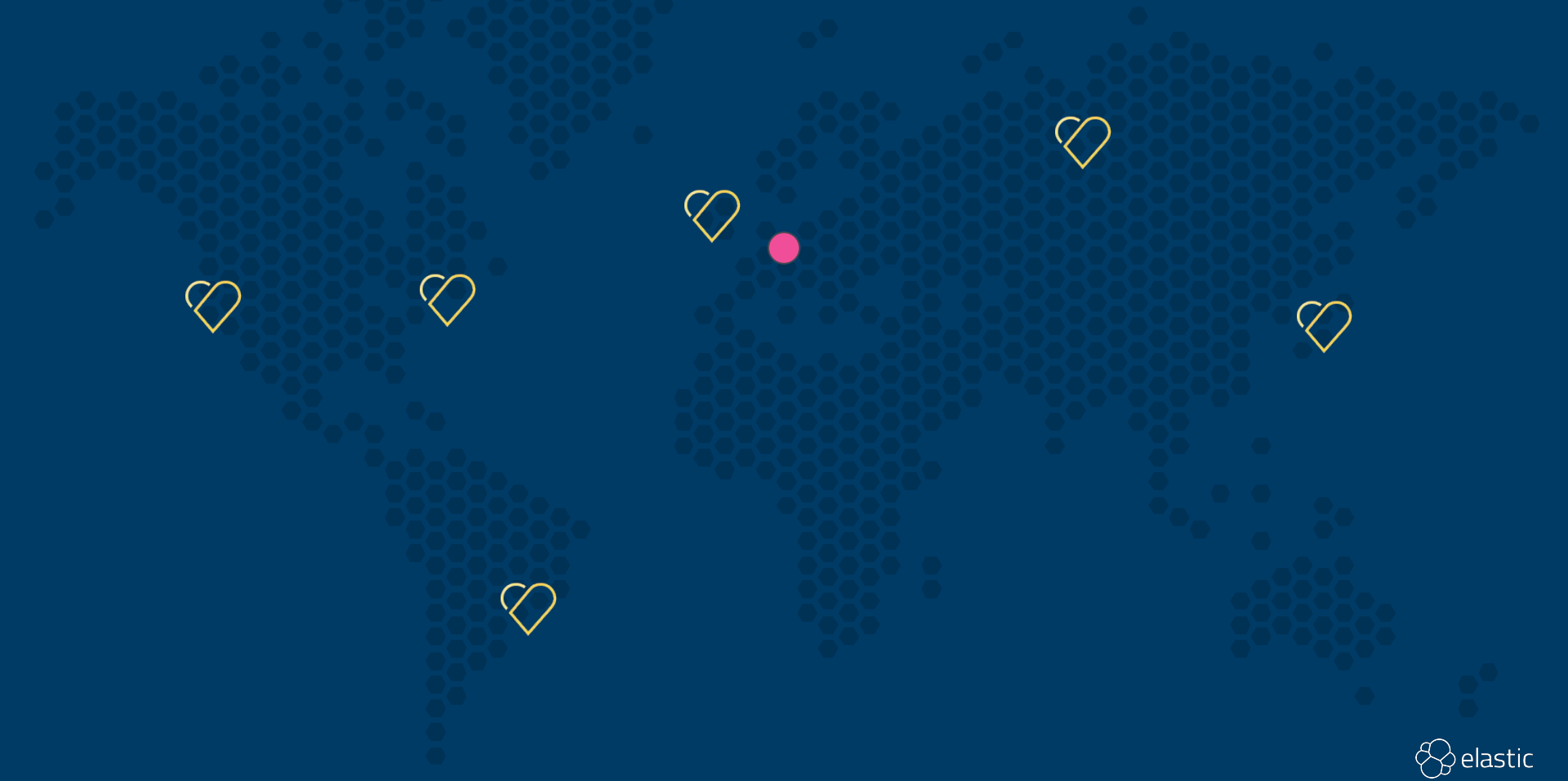
Location Location Location!



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Next steps

- Autodiscovery
- Configure custom CAs
- Configure scheduler limit and timezone
- Add processors like `add_locale`, `add_observer_metadata`
- Security privileges

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In development

- Kibana Alerting Integration
- ML Integration
- CCS support
- Central management

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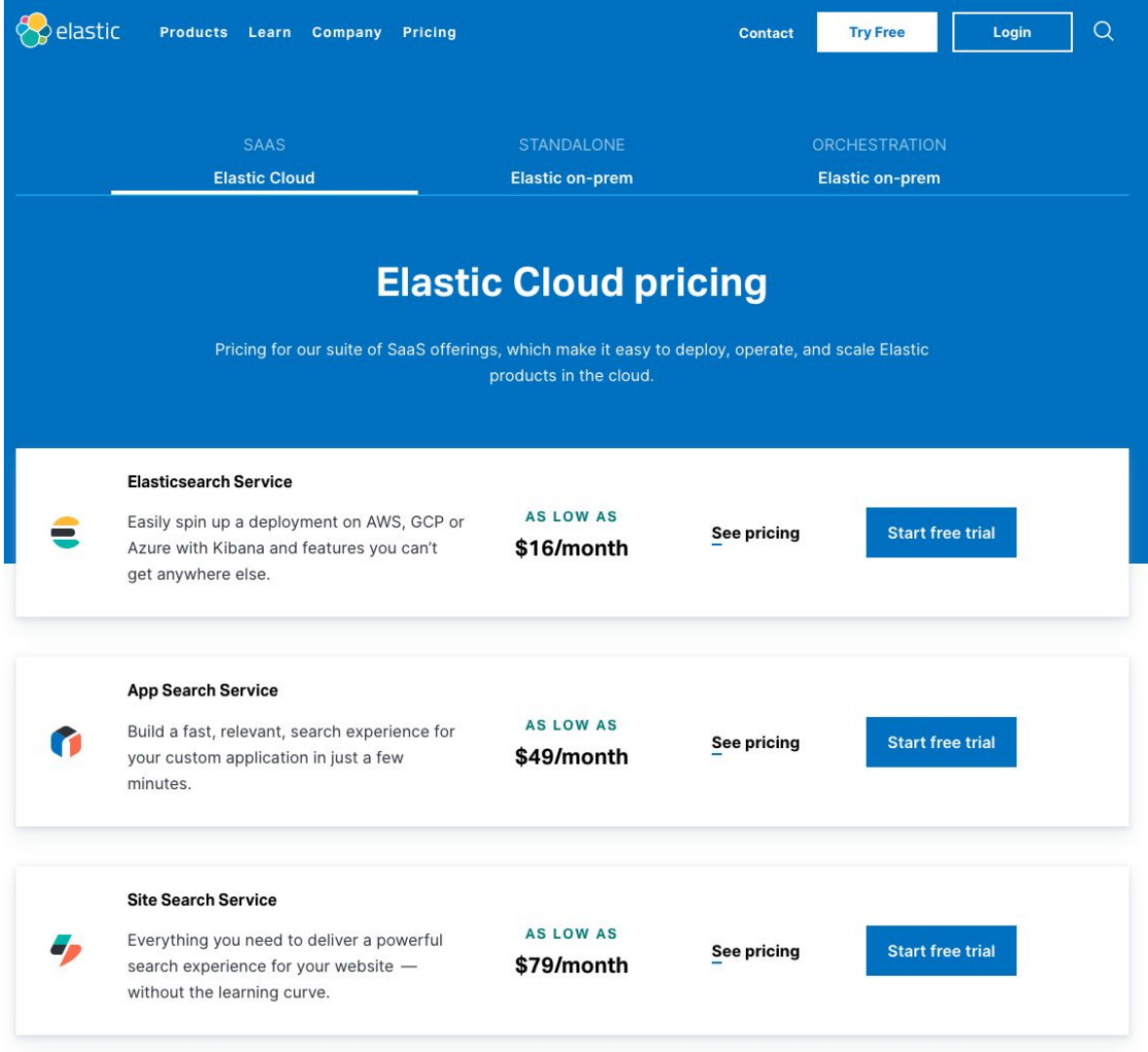
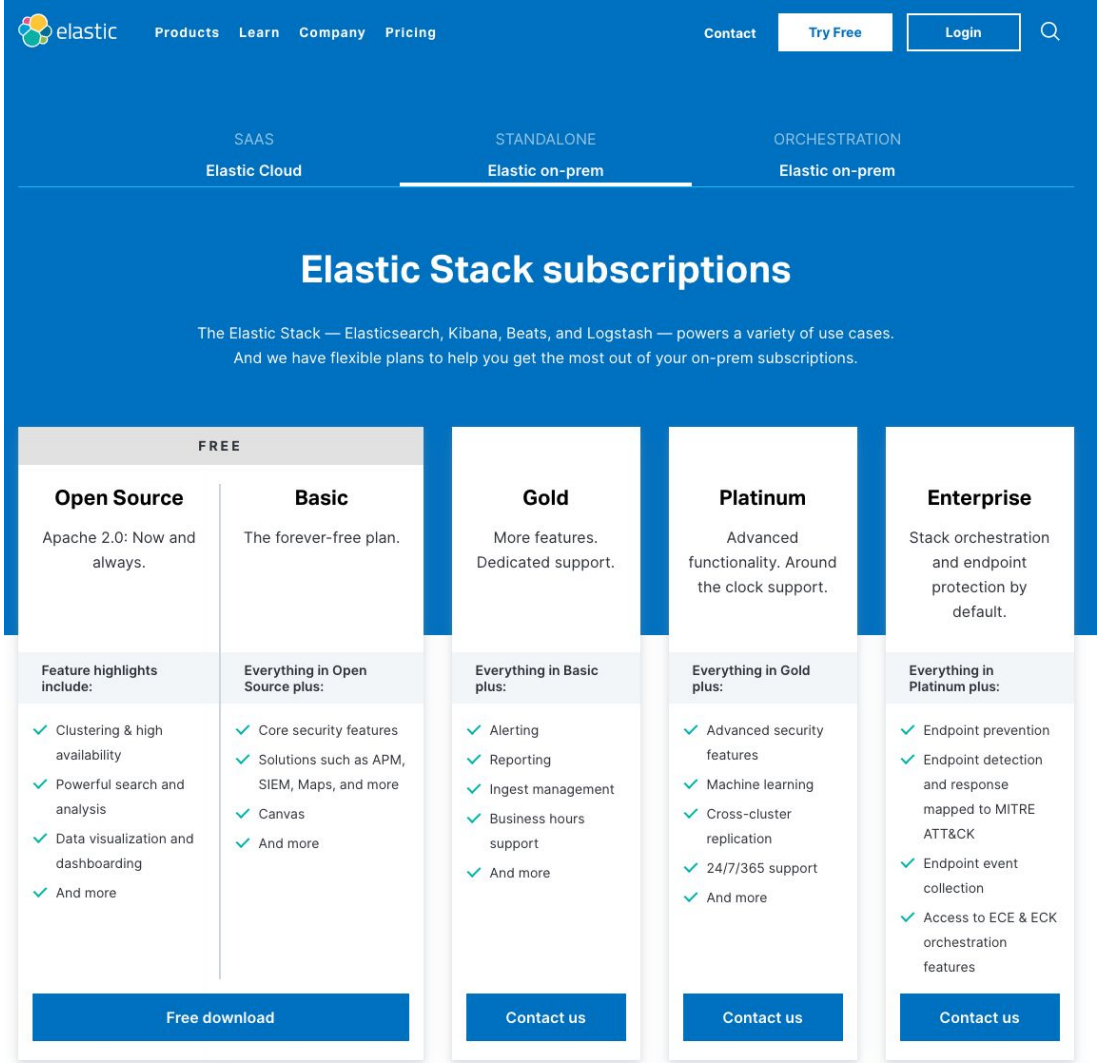
Elastic Cloud



Elastic Support Subscriptions



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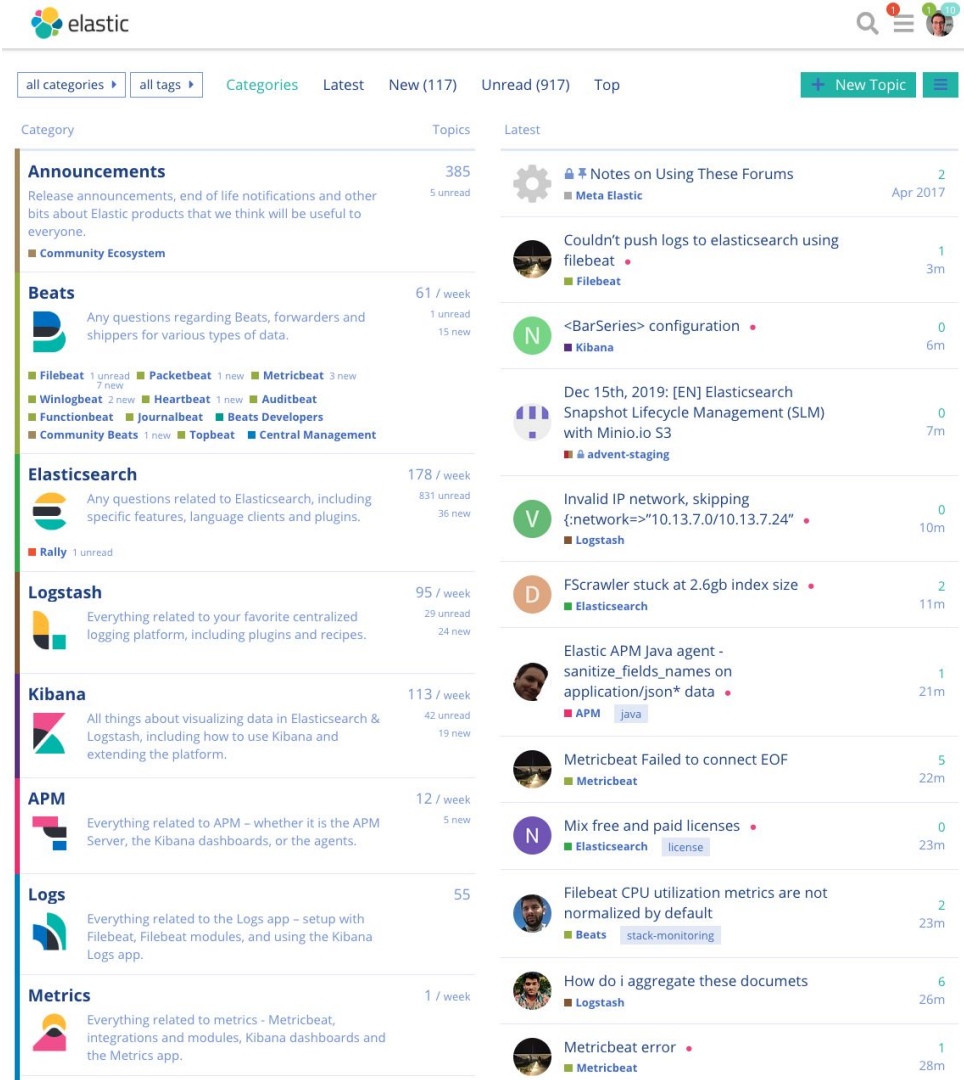
Getting help

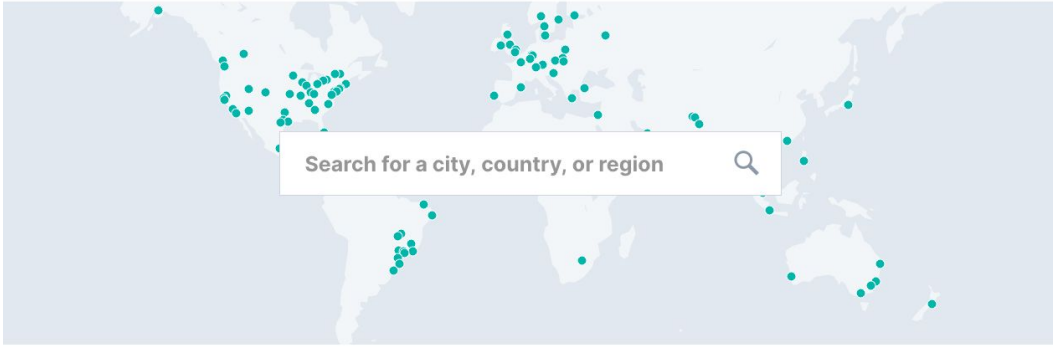
Discuss forum

https://discuss.elastic.co



Community & Meetups

https://community.elastic.co



Explore by region

Asia Pacific and Japan | Europe, Middle East and Africa | North and South America | Virtual

ELASTIC - BARCELONA
Spain

ELASTIC - COPENHAGEN
Denmark

ELASTIC - GOTEBORG
Sweden

ELASTIC - SCOTLAND
United Kingdom

ELASTIC - STOCKHOLM
Sweden

ELASTIC - TEL AVIV
Israel

ELASTIC - TURKEY
Turkey

ELASTIC BONN USER GROUP
Germany

ELASTIC CAMBRIDGE & EAST ANGLIA USER GROUP
United Kingdom

ELASTIC DUBAI USER GROUP
United Arab Emirates

ELASTIC FR
France

ELASTIC GREECE
Greece

ELASTIC HELSINKI
Finland

ELASTIC KRAKOW USER GROUP
Poland

ELASTIC LONDON USER GROUP
United Kingdom

ELASTIC LUXEMBOURG USER GROUP
Luxembourg

ELASTIC MANCHESTER USER GROUP
United Kingdom

ELASTIC MOSCOW
Russian Federation

ELASTIC NIGERIA
Nigeria

ELASTIC OSLO USER GROUP
Norway

ELASTIC PORTUGAL
Portugal

ELASTIC RHEINRUHR
Germany

ELASTIC SLOVAK USER GROUP
Slovakia

ELASTIC USER GROUP - CZ
Czech Republic

ELASTIC USER GROUP - DUBLIN
Ireland

ELASTIC USER GROUP ABIDJAN
Côte d'Ivoire

ELASTIC WARSAW USER GROUP
Poland

ELASTIC ZAGREB
Croatia

ELASTICSEARCH - SOUTH AFRICA
South Africa

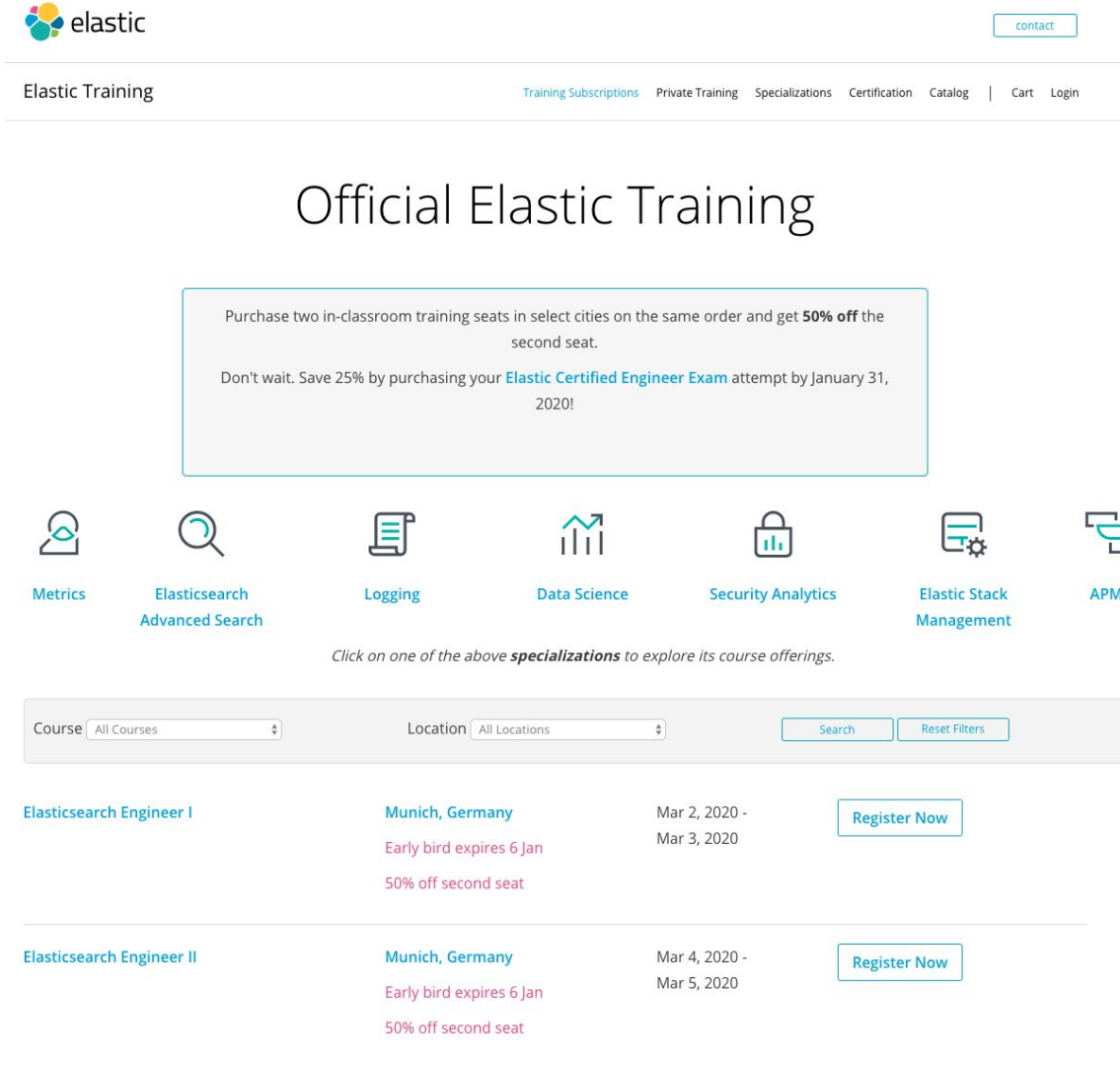
ELASTICSEARCH SWITZERLAND
Switzerland

ELASTICSEARCH USER GROUP PAKISTAN
Pakistan

SEARCH MEETUP MUNICH
Germany

Official Elastic Training

https://training.elastic.co



Thanks for listening!

Q & A

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