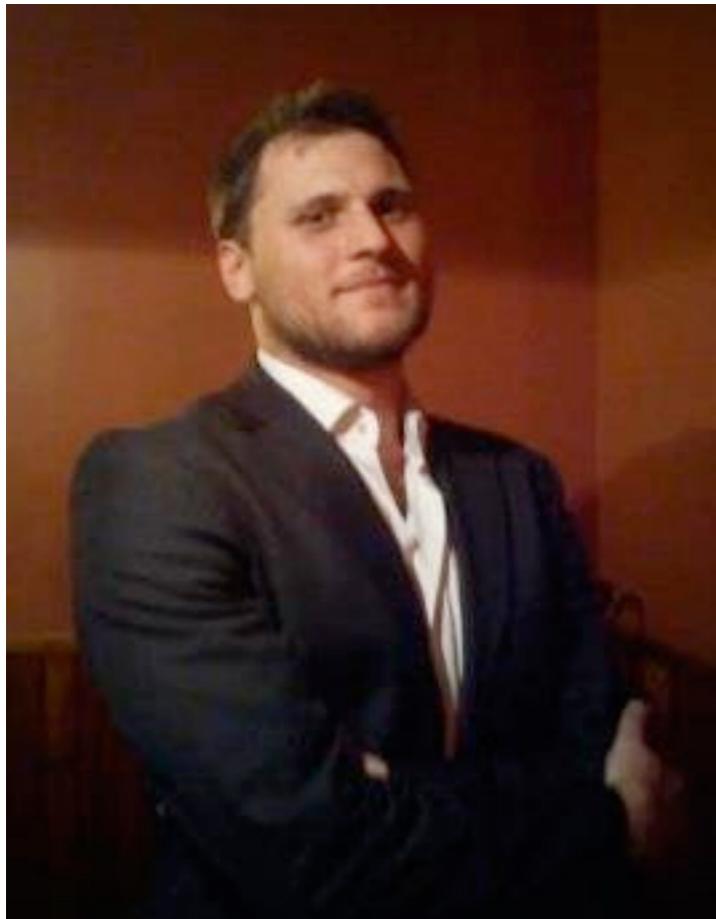


Codeurs en Seine 2015 | @vspiewak

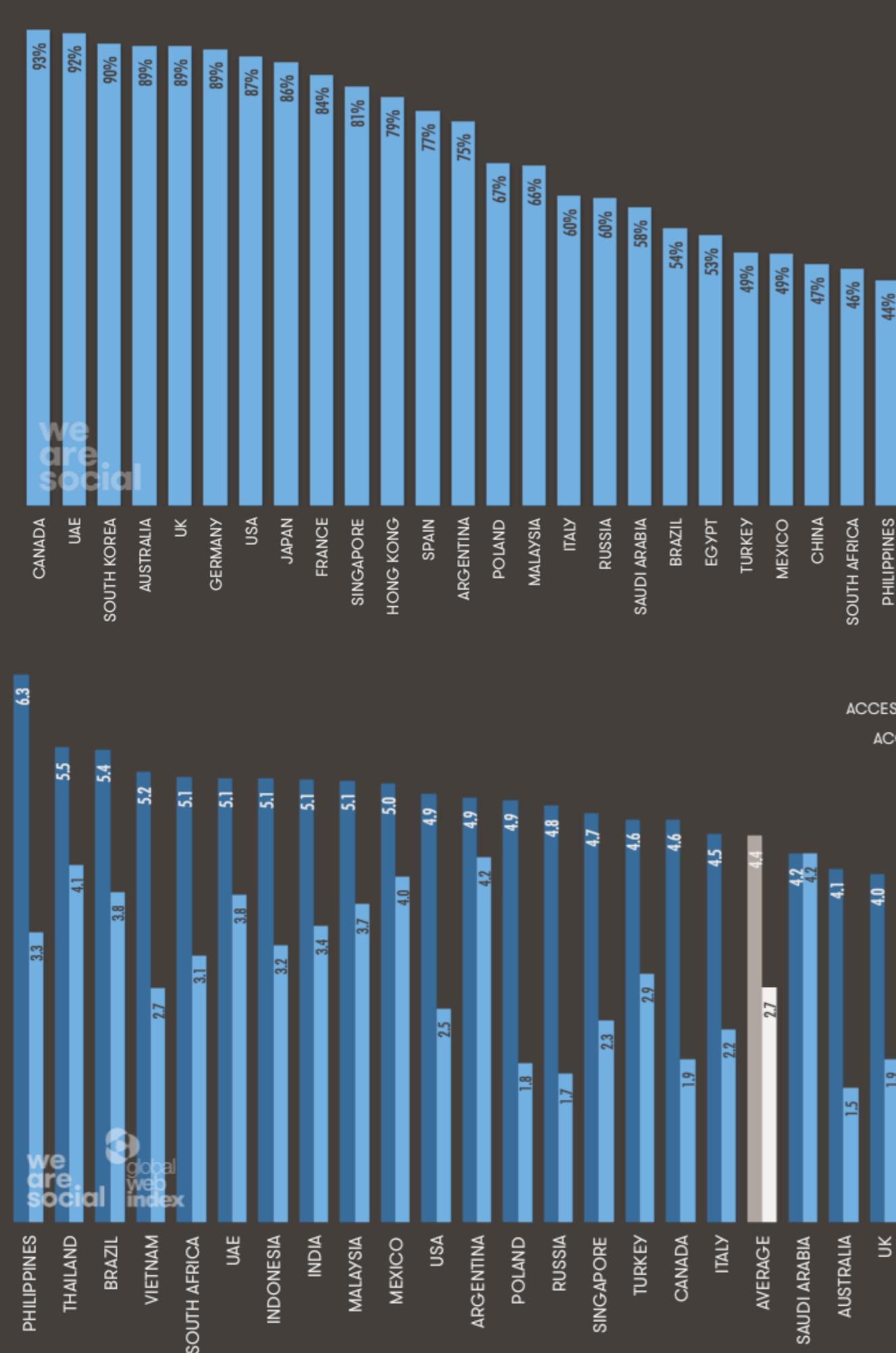
INFRASTRUCTURES RÉACTIVES

SPEAKER

VINCENT SPIEWAK



Scrum Master
Agile, DevOps, Craftman



42% connectés 7h/J

@WeAreSocial



50 Mds \$
310 Villes

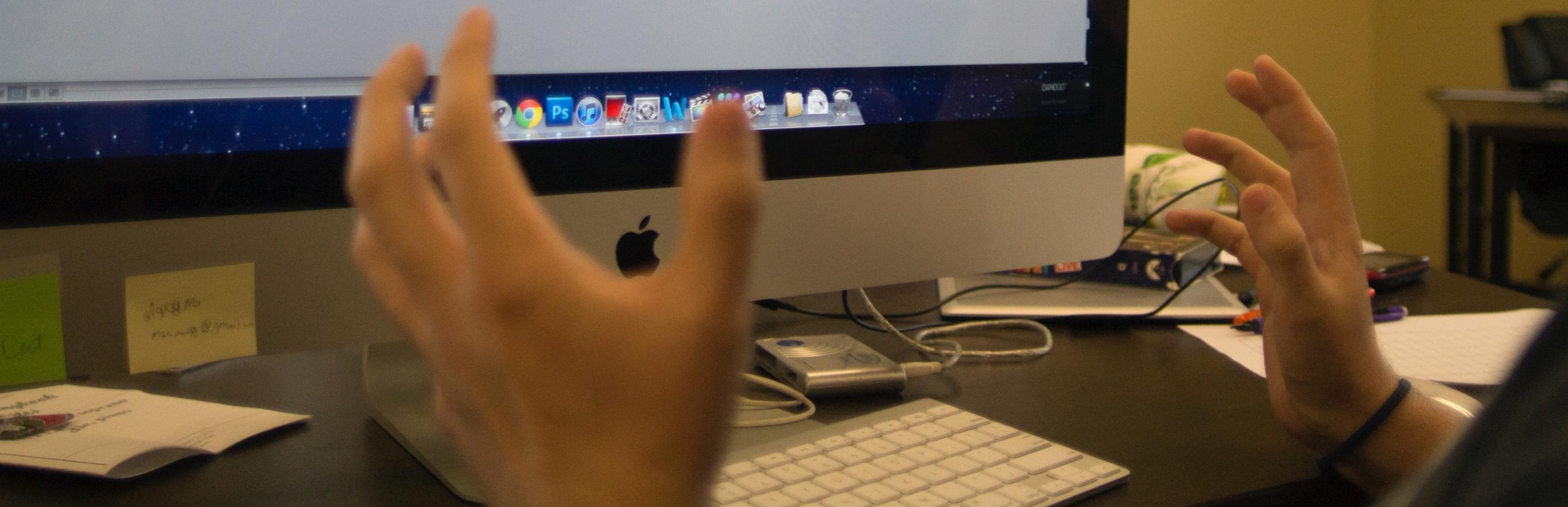
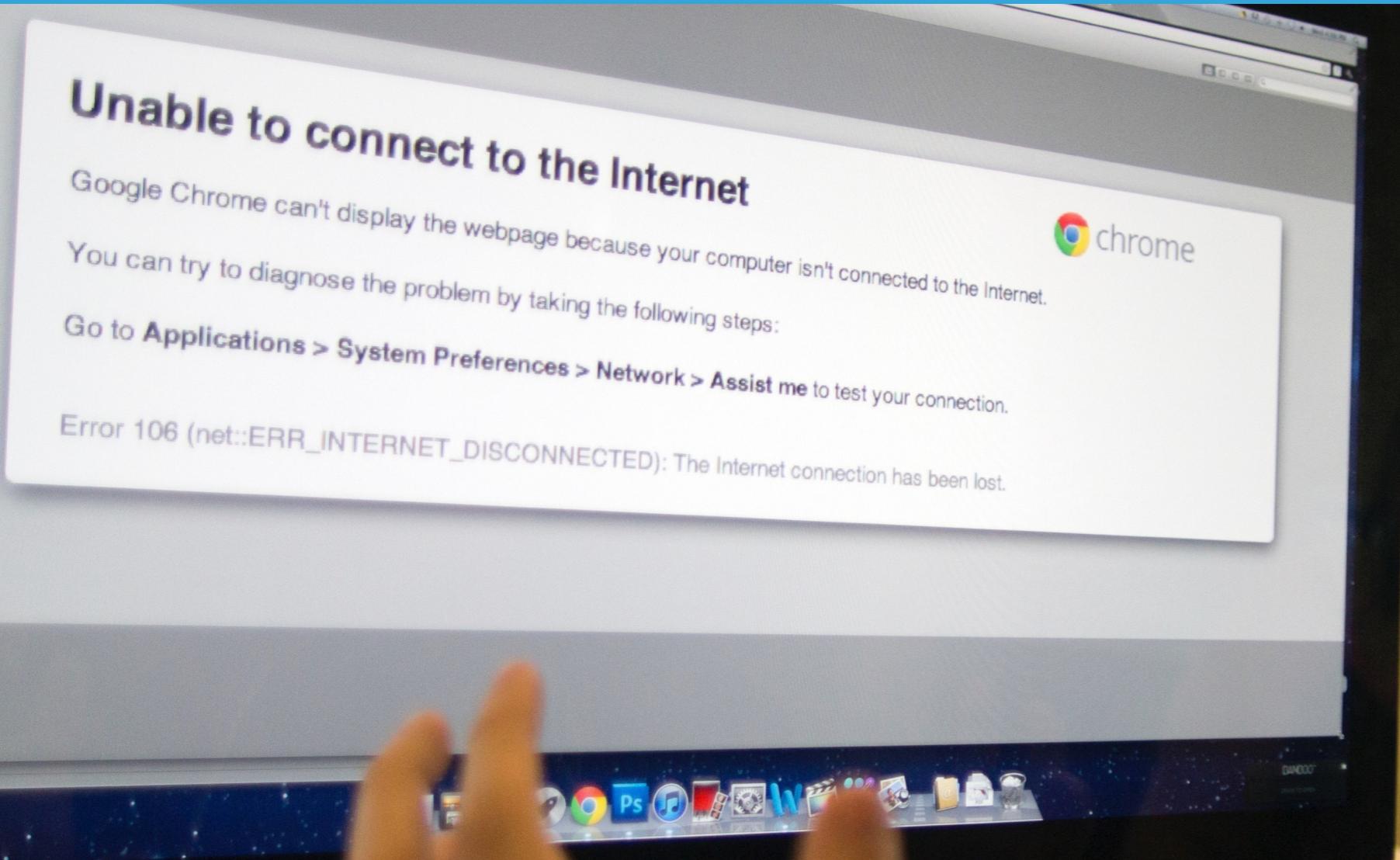
@Wikipedia



IOT 2020 25 à 50 Mds

@Gartner & Cisco

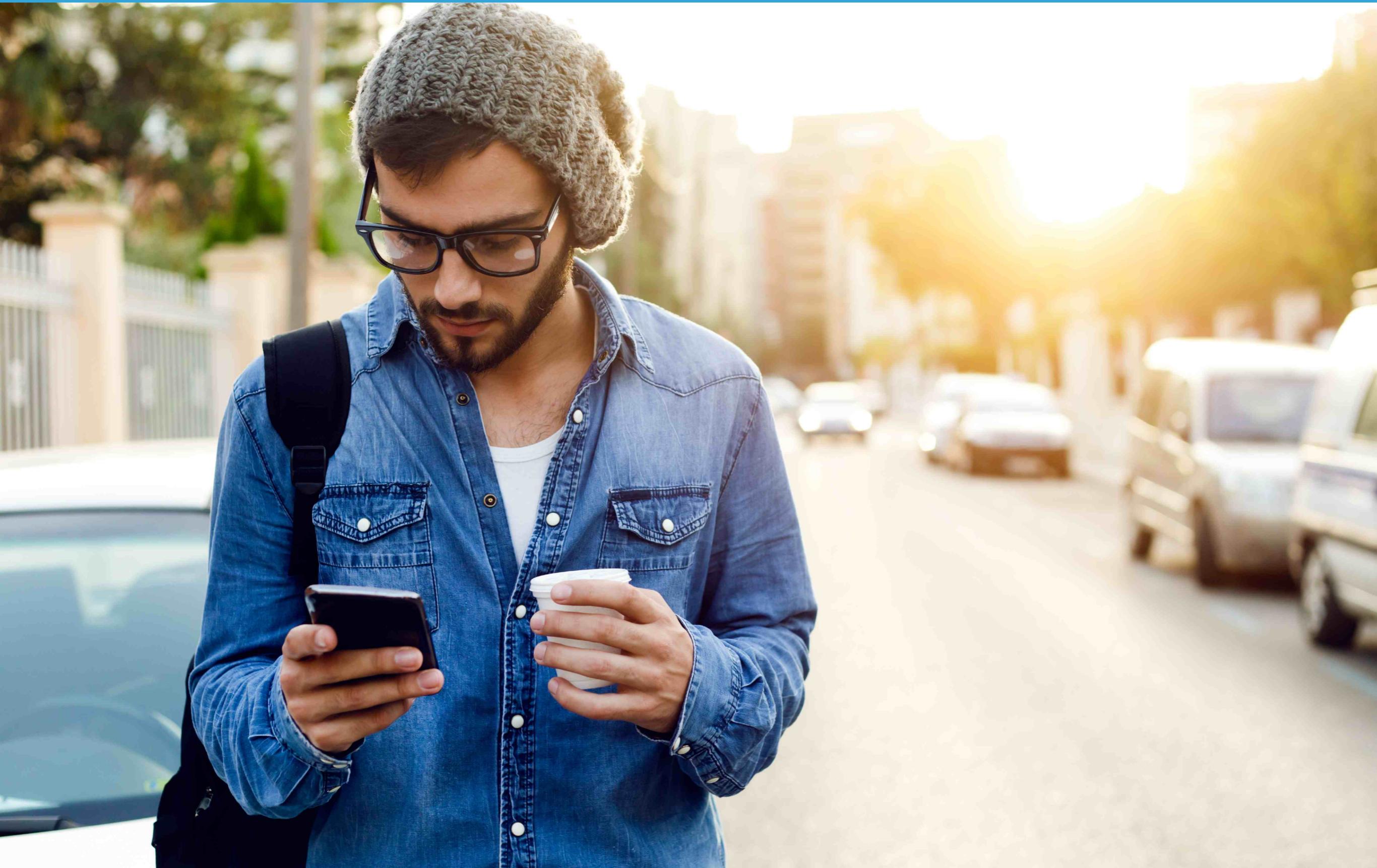
Résilient



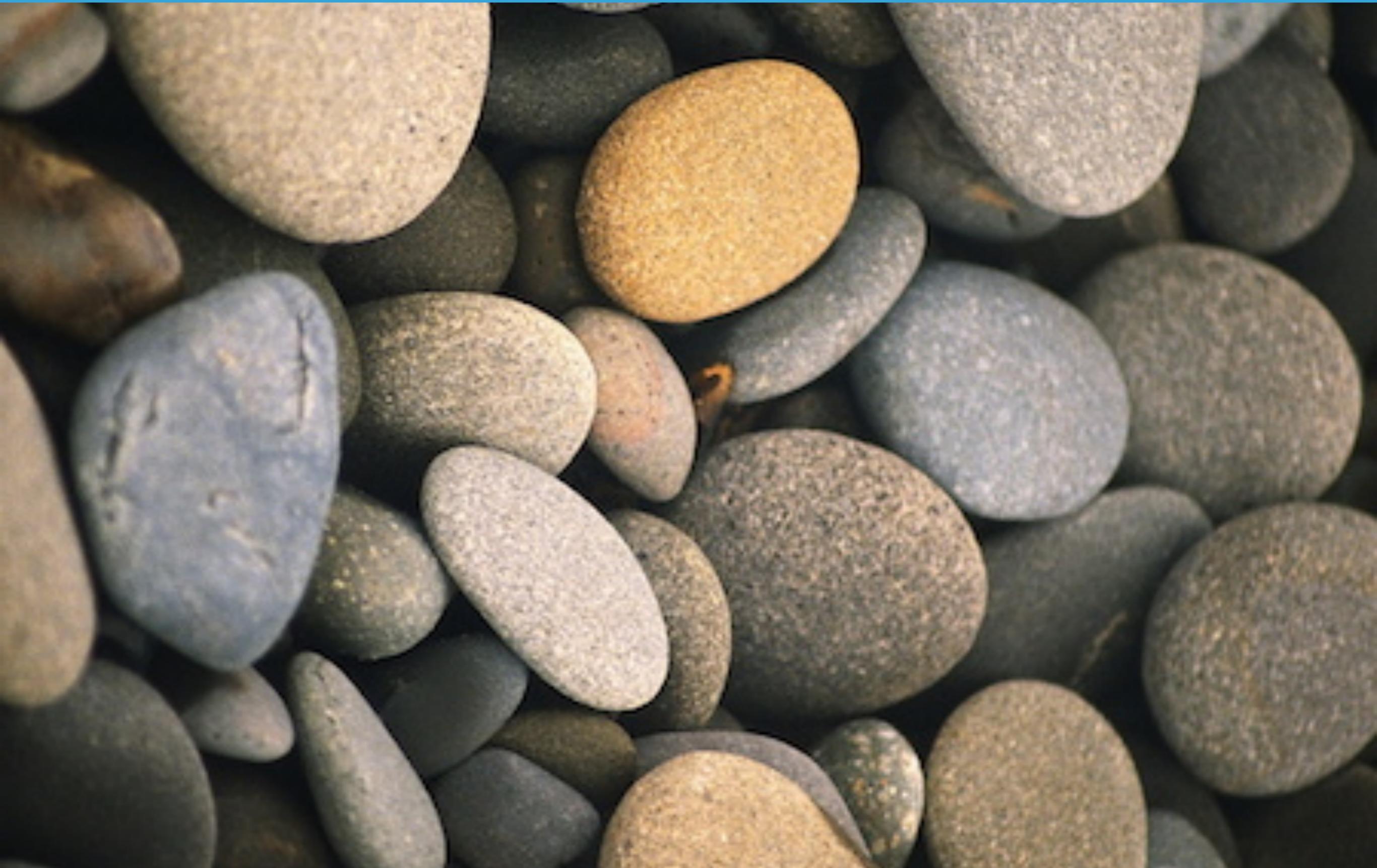
Scalabilité Horizontale



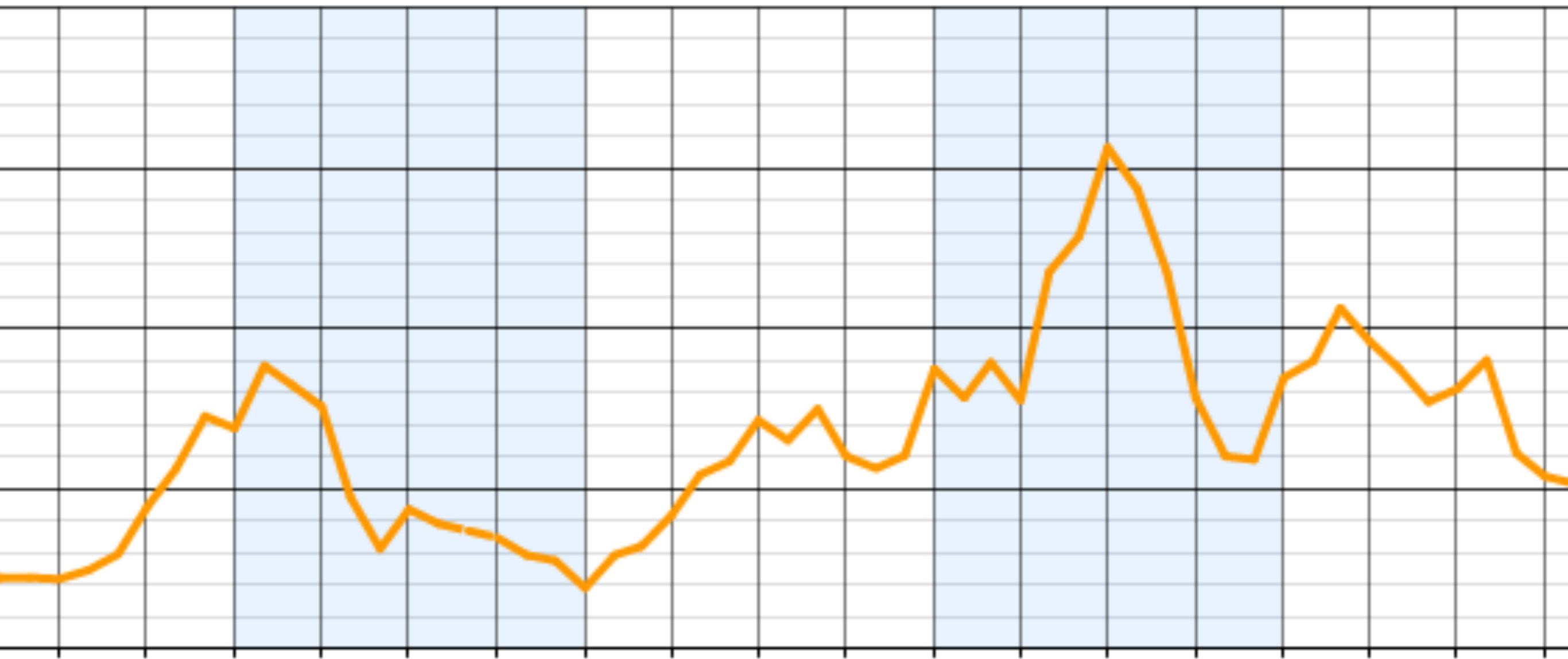
Disponible



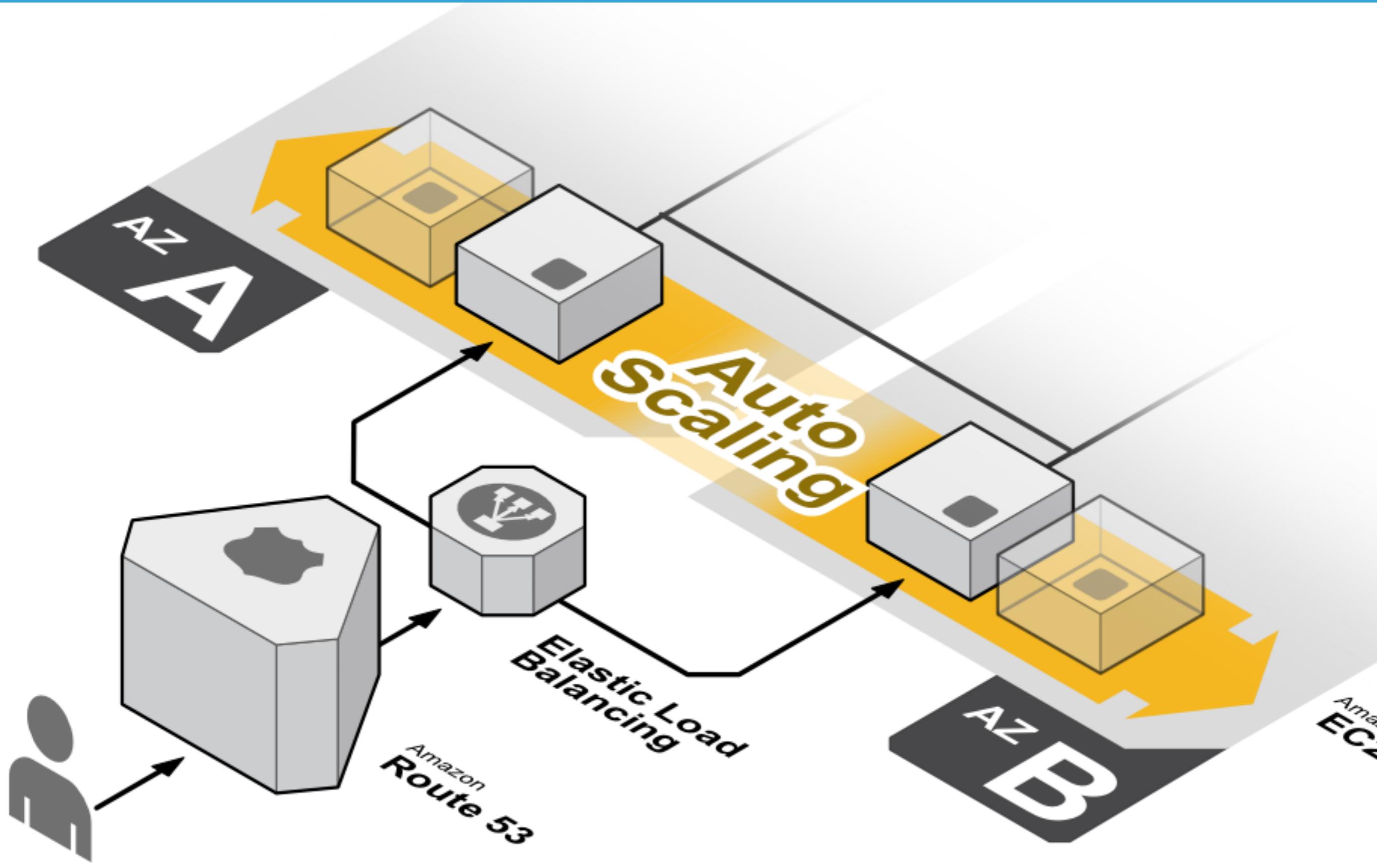
Distribué



Maîtrise des coûts

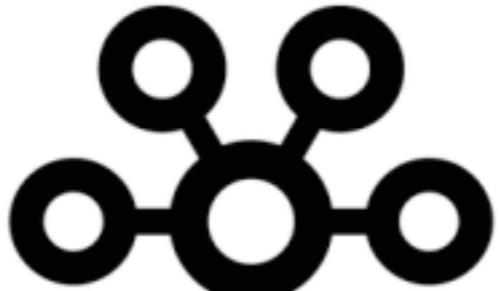
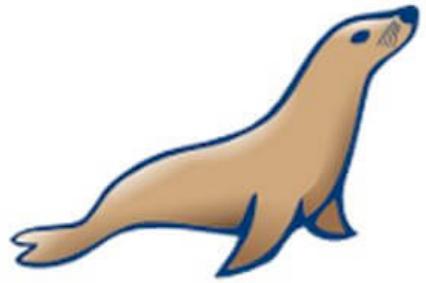


Souple

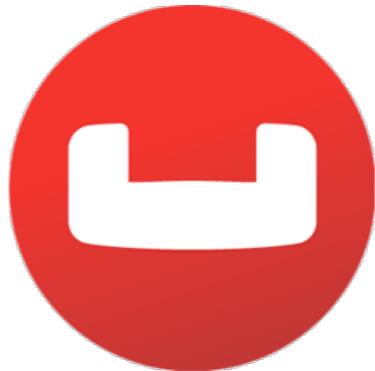
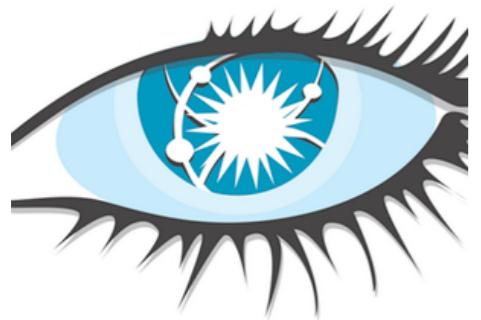
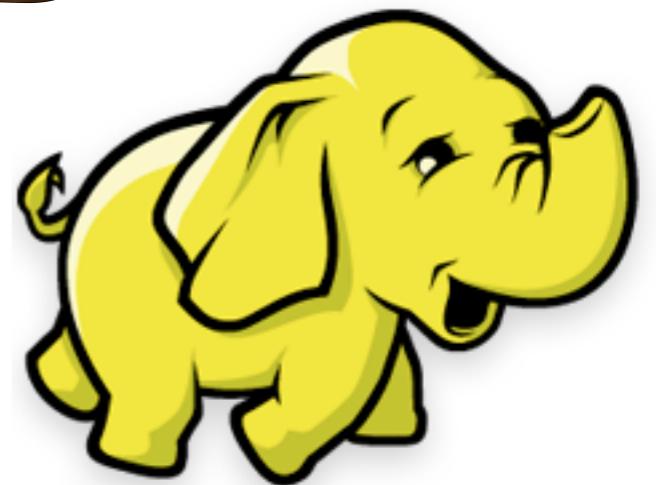


Editeurs

@Aphyr / jepsen



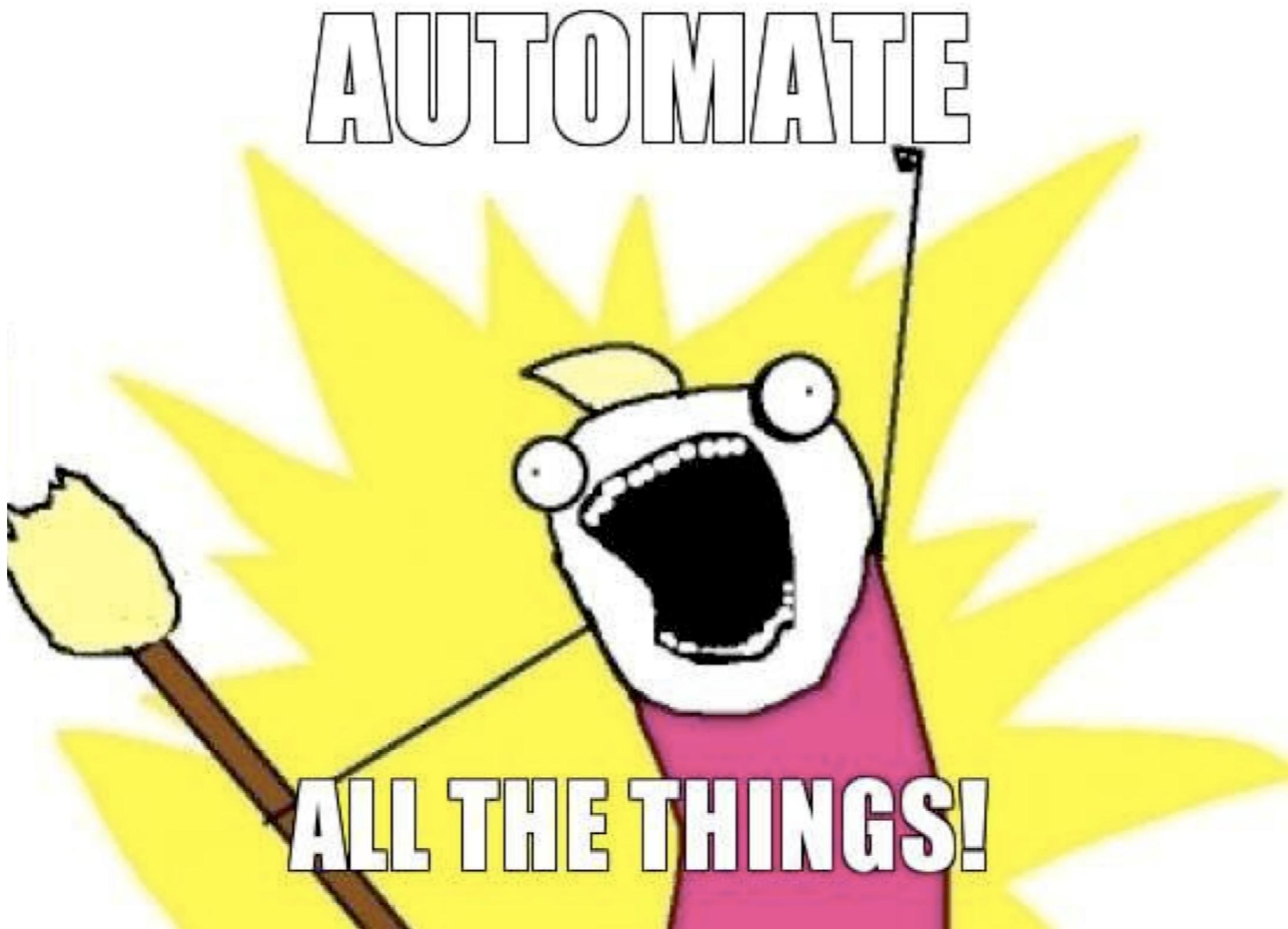
Spark



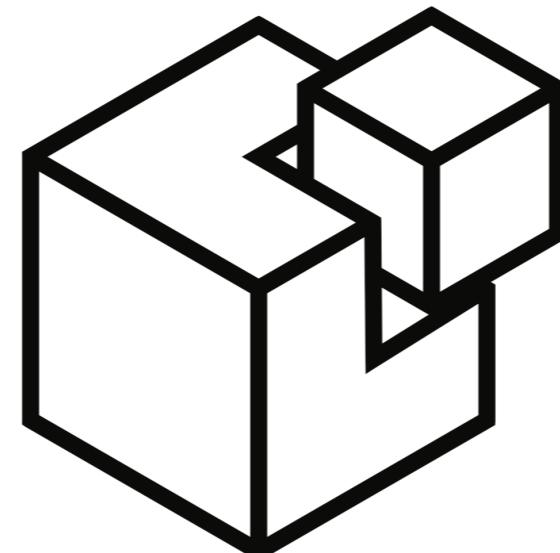
Reactive Manifesto

- ▶ Disponible
- ▶ Résilient
- ▶ Souple
- ▶ Orientés messages

Infrastructures Réactives



Infra as Code

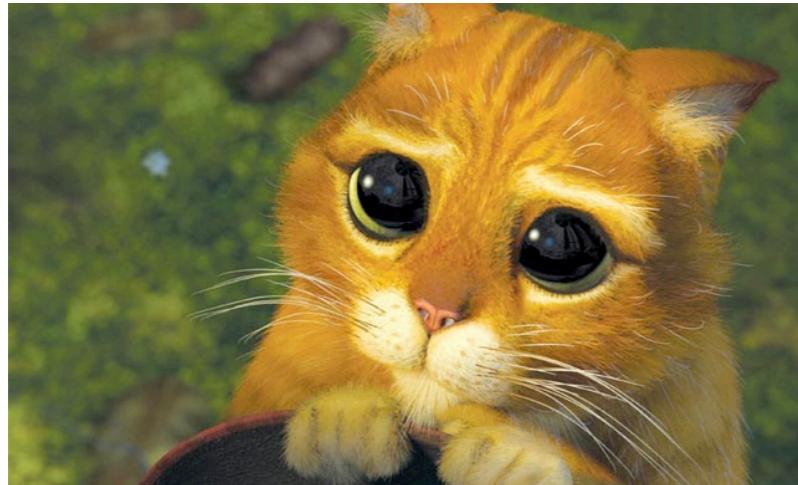


SALTSTACK

Pet vs Cattle

[Martin Fowler - Snowflake Server \(2012\)](#)

[Gavin McCance - CERN Data Centre Evolution \(2012\)](#)



Simian Army

@Netflix



Chaos Monkey

@Netflix

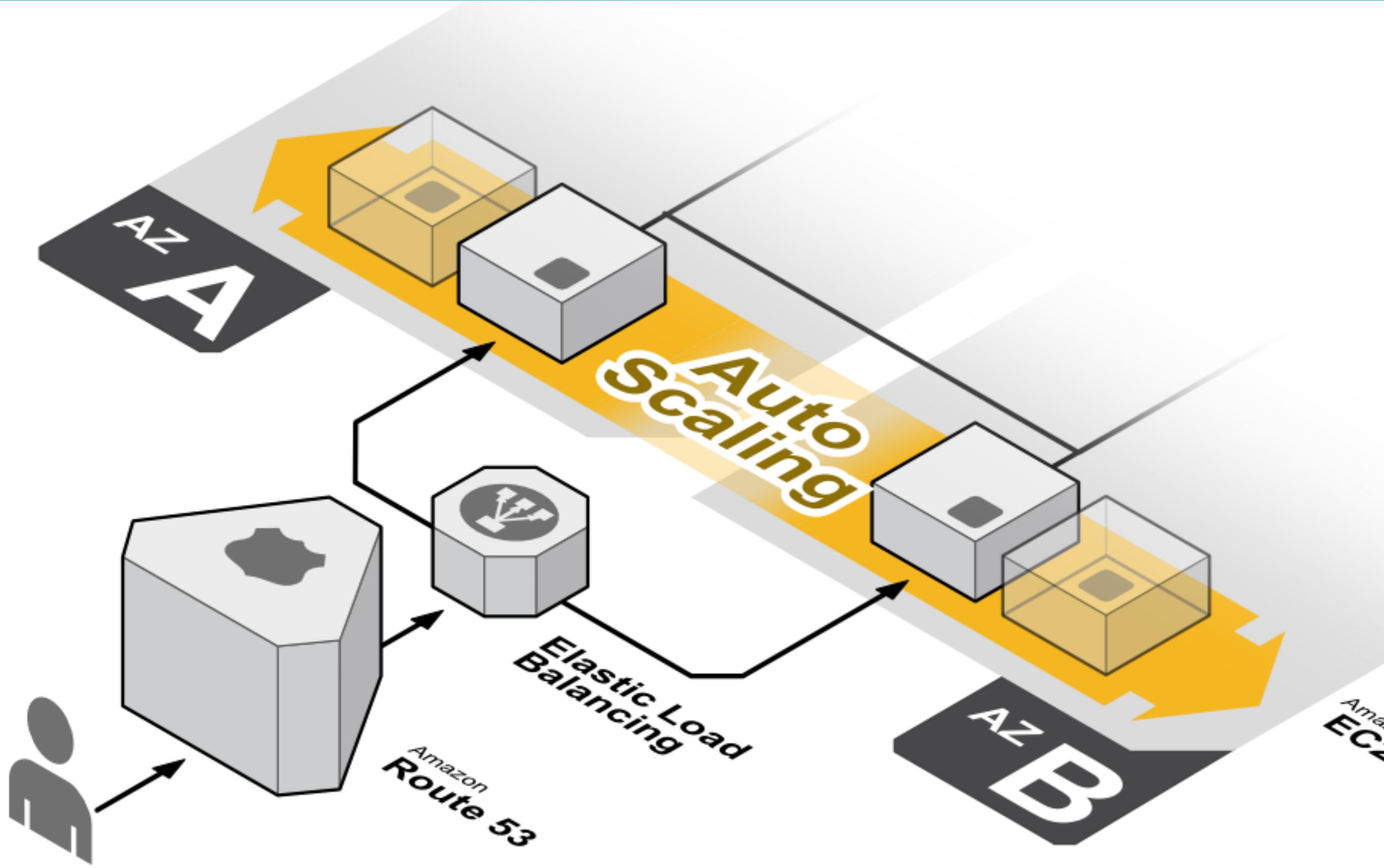


AWS

Elasticsearch @ AWS



Autoscaling Group



Cross AZ



■ Availability Zone

[Global AWS Infrastructure]

Chaos Monkey

@Netflix



Démo



<https://github.com/vspiewak/ces-2015-talk>

Setup avec Ansible

- ▶ Création d'une instances EC2
- ▶ Configuration d'Elasticsearch avec le plugin AWS
- ▶ Création de l'AMI
- ▶ Création de l'ELB
- ▶ Création de la LaunchConfiguration
- ▶ Création de l'AutoScalingGroup

Cluster Elasticsearch

ces2015-asg-elasticsearch-elb-1716569693.eu-west-1.elb.amazonaws.com:9200/_plugin/head/ ★ ≡

EC2 Management Console http://ces2015-asg-elasticsearch-elb-1716569693.eu-w Se connecter **elasticsearch-cluster** Santé du cluster: green (15 15)

Elasticsearch Aperçu Index Navigateur Recherche Structurée [+] Autres requêtes [+] Info

Aperçu du cluster Sort Cluster View Aliases Index Filter Rafraîchir

comics
size: 8.45ki (8.45ki)
docs: 3 (3)
Info Actions

●	Damion Hellstrom	0	1	2	3	4
★	Mole Man	0	1	2	3	4
●	Windeagle	0	1	2	3	4

ELB Cross AZ

Create Load Balancer **Actions**

Filter: ◀ ▶ 1 to 1 of 1 ▶ ▶

Load Balancer Name	DNS Name	Port Configuration	Availability Zones	Instance Count
ces2015-asg-elasticsearch-elb	ces2015-asg-elasticsearch-elb-1716569693.eu-west-1.elb.amazonaws.com	9200 (HTTP) forwarding to 9200 (HTTP)	eu-west-1b, eu-west-1c	3 Instances

Description **Instances** **Health Check** **Monitoring** **Security** **Listeners** **Tags**

DNS Name: ces2015-asg-elasticsearch-elb-1716569693.eu-west-1.elb.amazonaws.com (A Record)
Note: Because the set of IP addresses associated with a LoadBalancer can change over time, you should never create an "A" record with any specific IP address. If you want to use a friendly DNS name for your load balancer instead of the name generated by the Elastic Load Balancing service, you should create a CNAME record for the LoadBalancer DNS name, or use Amazon Route 53 to create a hosted zone. For more information, see [Using Domain Names With Elastic Load Balancing](#).

Scheme: internet-facing

Status: [3 of 3 instances in service](#)

Port Configuration: 9200 (HTTP) forwarding to 9200 (HTTP)
Stickiness: Disabled [\(Edit\)](#)

Availability Zones: subnet-3cc79159 - eu-west-1b,
subnet-4cec7c15 - eu-west-1a,
subnet-66fb8511 - eu-west-1c

ELB Instances

Create Load Balancer Actions ▾

Filter: X

K < 1 to 1 of 1 > |

	Load Balancer Name	DNS Name	Port Configuration	Availability Zones	Instance Count
<input checked="" type="checkbox"/>	ces2015-asg-elasticsearch-elb	ces2015-asg-elasticsearch-elb...	9200 (HTTP) forwarding to 9...	eu-west-1b, eu-west-1c...	3 Instances

Edit Instances

Instance ID	Name	Availability Zone	Status	Actions
i-1cf12aa5	ces2015.asg.elasticsearch_node	eu-west-1b	InService i	Remove from Load Balancer
i-29cfcb90	ces2015.asg.elasticsearch_node	eu-west-1c	InService i	Remove from Load Balancer
i-de72cf53	ces2015.asg.elasticsearch_node	eu-west-1a	InService i	Remove from Load Balancer

Edit Availability Zones

Availability Zone	Subnet ID	Subnet CIDR	Instance Count	Healthy?	Actions
eu-west-1b	subnet-3cc79159	172.31.0.0/20	1	Yes	Remove from Load Balancer
eu-west-1c	subnet-66fb8511	172.31.16.0/20	1	Yes	Remove from Load Balancer
eu-west-1a	subnet-4cec7c15	172.31.32.0/20	1	Yes	Remove from Load Balancer

Launch Configuration

[Create launch configuration](#)[Create Auto Scaling group](#)[Actions ▾](#)Filter: X

K < 1 to 1 of 1 Launch Configurations > >|

Name	AMI ID	Instance Type	Spot Price	Creation Time
ces2015.asg.e...	ami-c09134b3	t2.micro		November 21, 2015 4:27:13 PM...

Launch Configuration: ces2015.asg.elasticsearch.launchconfiguration

[Details](#)[Copy launch configuration](#)**AMI ID** ami-c09134b3**Instance Type** t2.micro**IAM Instance Profile****Key Name** vspiewak**Kernel ID****EBS Optimized** false**Monitoring** false**Spot Price****Security Groups** vpc-**RAM Disk ID****d28becb7_ces2015_asg_elasticsearch_node_sg****User data** -**Creation Time** Sat Nov 21 16:27:13 GMT+100 2015**Block Devices** -**IP Address Type**Only assign a public IP address to instances launched in the default VPC and subnet.
(default)

Auto Scaling Group

[Create Auto Scaling group](#)[Actions ▾](#)Filter: X

K < 1 to 1 of 1 Auto Scaling Groups > >|

<input type="checkbox"/>	Name	Launch Configuration	Instances	Desired	Min	Max	Availability Zones	Default
<input type="checkbox"/>	ces2015.asg.e...	ces2015.asg.elasticsearch.launchconfiguration	3	3	3	10	eu-west-1a, eu-west-1b, eu-west-1c	0

Auto Scaling Group: ces2015.asg.elasticsearch.autoscalinggroup

[Details](#)[Activity History](#)[Scaling Policies](#)[Instances](#)[Notifications](#)[Tags](#)[Actions ▾](#)

Filter: Any Health Status ▾

Any Lifecycle State ▾

 X

K < 1 to 3 of 3 Instances > >|

<input type="checkbox"/>	Instance ID	Lifecycle	Launch Configuration Name	Availability Zone	Health Status
<input type="checkbox"/>	i-1cf12aa5	InService	ces2015.asg.elasticsearch.launchconfiguration	eu-west-1b	Healthy
<input type="checkbox"/>	i-29cfcb90	InService	ces2015.asg.elasticsearch.launchconfiguration	eu-west-1c	Healthy
<input type="checkbox"/>	i-de72cf53	InService	ces2015.asg.elasticsearch.launchconfiguration	eu-west-1a	Healthy

Chaos Monkey !

```
1. java  
17:50:51.350 [main] INFO c.n.s.b.c.BasicConformityMonkeyContext - Conformity Monkey is running in: [eu-west-1]  
17:50:51.352 [main] INFO c.n.s.b.c.BasicConformityMonkeyContext - Discovery/Eureka is not enabled, the conformity rules that need Eureka are not added.  
17:50:51.361 [main] INFO com.netflix.simianarmy.MonkeyRunner - Starting CHAOS Monkey  
17:50:51.737 [main] INFO com.netflix.simianarmy.MonkeyRunner - Starting VOLUME_TAGGING Monkey  
17:50:51.737 [pool-1-thread-1] INFO com.netflix.simianarmy.Monkey - CHAOS Monkey Running ...  
17:50:51.738 [pool-1-thread-1] INFO c.n.simianarmy.client.aws.AWSClient - Getting all auto-scaling groups in region eu-west-1.  
17:50:51.835 [main] INFO com.netflix.simianarmy.MonkeyRunner - Starting JANITOR Monkey  
17:50:51.835 [pool-2-thread-1] INFO com.netflix.simianarmy.Monkey - VOLUME_TAGGING Monkey Running ...  
17:50:51.836 [pool-2-thread-1] INFO c.n.s.a.janitor.VolumeTaggingMonkey - Volume tagging monkey is not enabled. You can set simianarmy.volumeTagging.enabled to true to enable it.  
17:50:51.836 [pool-2-thread-1] INFO com.netflix.simianarmy.Monkey - Reporting what I did...  
  
17:50:51.940 [pool-3-thread-1] INFO com.netflix.simianarmy.Monkey - JANITOR Monkey Running ...  
17:50:51.940 [main] INFO com.netflix.simianarmy.MonkeyRunner - Starting CONFORMITY Monkey  
17:50:51.940 [pool-3-thread-1] INFO c.n.s.b.janitor.BasicJanitorMonkey - JanitorMonkey disabled, set simianarmy.janitor.enabled=true  
17:50:51.940 [pool-3-thread-1] INFO com.netflix.simianarmy.Monkey - Reporting what I did...  
  
17:50:52.045 [pool-4-thread-1] INFO com.netflix.simianarmy.Monkey - CONFORMITY Monkey Running ...  
17:50:52.045 [pool-4-thread-1] INFO c.n.s.b.c.BasicConformityMonkey - Conformity Monkey is disabled, set simianarmy.conformity.enabled=true  
17:50:52.046 [pool-4-thread-1] INFO com.netflix.simianarmy.Monkey - Reporting what I did...  
  
17:50:52.250 [pool-1-thread-1] INFO c.n.simianarmy.client.aws.AWSClient - Got 1 auto-scaling groups in region eu-west-1.  
17:50:52.357 [pool-1-thread-1] INFO c.n.s.basic.chaos.BasicChaosMonkey - Group ces2015.asg.elasticsearch.autoscalinggroup [type ASG] enabled [prob 6.0]  
17:50:52.357 [pool-1-thread-1] INFO c.n.s.b.c.BasicChaosInstanceSelector - Group ces2015.asg.elasticsearch.autoscalinggroup [type ASG] has disabled probability: 0.0  
17:50:52.357 [pool-1-thread-1] INFO c.n.s.b.c.BasicChaosInstanceSelector - Randomly selecting 1 from 3 instances, excluding null  
17:50:52.615 [pool-1-thread-1] INFO c.n.simianarmy.client.aws.AWSClient - Terminating instance i-de72cf53 in region eu-west-1.  
17:50:53.013 [pool-1-thread-1] INFO c.n.s.basic.chaos.BasicChaosMonkey - Terminated i-de72cf53 from group ces2015.asg.elasticsearch.autoscalinggroup [ASG] with ShutdownInstance  
17:50:53.014 [pool-1-thread-1] INFO com.netflix.simianarmy.Monkey - Reporting what I did...  
CHAOS_TERMINATION i-de72cf53 (groupType:ASG, groupName:ces2015.asg.elasticsearch.autoscalinggroup)  
  
> Building 75% > :jettyRun > Running at http://localhost:8080/simianarmy
```

ELB

Create Load Balancer **Actions**

Filter: ◀ ▶ 1 to 1 of 1 ▶ ▶

Load Balancer Name	DNS Name	Port Configuration	Availability Zones	Instance Count
ces2015-asg-elasticsearch-elb	ces2015-asg-elasticsearch-elb-...	9200 (HTTP) forwarding to 9...	eu-west-1b, eu-west-1c...	2 Instances

...

Instance ID	Name	Availability Zone	Status	Actions
i-1cf12aa5	ces2015.asg.elasticsearch_node	eu-west-1b	InService	Remove from Load Balancer
i-29cfcb90	ces2015.asg.elasticsearch_node	eu-west-1c	InService	Remove from Load Balancer

Edit Availability Zones

Availability	Subnet ID	Subnet	Instance	Healthy?	Actions
eu-west-1b	subnet-3cc79159	172.31.0.0/20	1	Yes	Remove from Load Balancer
eu-west-1c	subnet-66fb8511	172.31.16.0/20	1	Yes	Remove from Load Balancer
eu-west-1a	subnet-4cec7c15	172.31.32.0/20	0	No (Availability Zone contains no healthy instances)	Remove from Load Balancer

Elasticsearch

ces2015-asg-elasticsearch-elb-1716569693.eu-west-1.elb.amazonaws.com:9200/_plugin/head/

Elasticsearch http://ces2015-asg-elasticsearch-elb-1716569693.eu-west-1.elb.amazonaws.com:9200/_plugin/head/ Se connecter **elasticsearch-cluster** **Santé du cluster: yellow (10 15)** [Info](#)

Aperçu Index Navigateur Recherche Structurée [+] Autres requêtes [+]

Aperçu du cluster [Sort Cluster](#) [View Aliases](#) [Index Filter](#) [Rafraîchir](#)

comics
size: 6.18ki (6.18ki)
docs: 2 (2)
[Info](#) [Actions](#)

A	Unassigned	0	1	2	3	4
●	Damion Hellstrom	0	1	2	3	4
★	Mole Man	0	1	2	3	4

Not yet in service !

Create Auto Scaling group Actions ▾

Filter: Filter Auto Scaling groups... × 1 to 1 of 1 Auto Scaling Groups < < > >

Name	Launch Configuration	Instances	Desired	Min	Max	Availability Zones	Default
ces2015.asg.e...	ces2015.asg.elasticsearch...	2 ⓘ	3	3	10	eu-west-1a, eu-west-1b, eu-west-1c	0

Auto Scaling Group: ces2015.asg.elasticsearch.autoscalinggroup

Details Activity History Scaling Policies Instances Notifications Tags

Filter: Any Status ▾ 1 to 25 of 104 History Items < < > >

Status	Description	Start Time	End Time
Not yet in service	Launching a new EC2 instance: i-1a6ed397	2015 November 24 17:51:52 UTC+1	
Successful	Terminating EC2 instance: i-de72cf53	2015 November 24 17:51:20 UTC+1	2015 November 24 17:51:24 UTC
Successful	Launching a new EC2 instance: i-de72cf53	2015 November 24 17:39:51 UTC+1	2015 November 24 17:40:25 UTC

Elasticsearch

Elasticsearch http://ces2015-asg-elasticsearch-elb-1716569693.eu-west-1.elasticbeanstalk.com Se connecter **elasticsearch-cluster** Santé du cluster: green (15 15) [Info](#)

Aperçu Index Navigateur Recherche Structurée [+] Autres requêtes [+]

Aperçu du cluster [Sort Cluster](#) [View Aliases](#) [Index Filter](#) [Rafraîchir](#)

comics
size: 9.09ki (9.09ki)
docs: 3 (3)

[Info](#) [Actions](#)

●	Damion Hellstrom	0	1	2	3	4
★	Mole Man	0	1	2	3	4
●	Starstreak	0	1	2	3	4

Create Alarm

Create Alarm

X

You can use CloudWatch alarms to be notified automatically whenever metric data reaches a level you define.

To edit an alarm, first choose whom to notify and then define when the notification should be sent.

Send a notification to: No SNS topics found... ▾

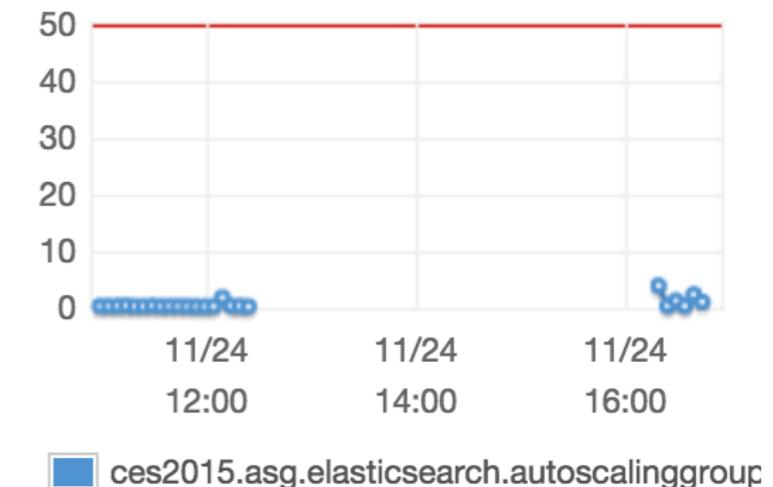
Whenever: Average ▾ of CPU Utilization ▾

Is: <= ▾ 50 Percent

For at least: 1 consecutive period(s) of 1 Minute ▾

Name of alarm: elasticsearch-autoscalinggroup-Low-CPU-Utilization

CPU Utilization Percent



[Cancel](#)

[Create Alarm](#)

Scaling Policy

Create Scaling policy

CancelCreate

Name: my-scaling-policy

Execute policy when: awsec2-ces2015-asg-elasticsearch-autoscalinggroup-Low-CPU-Utilization   [Create new alarm](#)

breaches the alarm threshold: CPUUtilization <= 50 for 60 seconds

for the metric dimensions AutoScalingGroupName = ces2015.asg.elasticsearch.autoscalinggroup

Take the action: Add  1 instances  when 50  >= CPUUtilization > -infinity

[Add step](#) 

Instances need: 0 seconds to warm up after each step

[Create a simple scaling policy](#) 

Alarm trigger

Filter: Filter Auto Scaling groups... X

K < 1 to 1 of 1 Auto Scaling Groups > >|

Name	Launch Configuration	Instances	Desired	Min	Max	Availability Zones	Default
ces2015.asg.e...	ces2015.asg.elasticsearch...	3	3	3	10	eu-west-1a, eu-west-1b, eu-west-1c	0

Details **Activity History** Scaling Policies Instances Notifications Tags



Filter: Any Status Filter scaling history... X

K < 1 to 25 of 105 History Items > >|

Status	Description	Start Time	End Time
Successful	Launching a new EC2 instance: i-09ef34b0	2015 November 24 17:55:52 UTC+1	2015 November 24 17:56:56 UTC+1

Description: Launching a new EC2 instance: i-09ef34b0

Cause: At 2015-11-24T16:55:30Z a monitor alarm awsec2-ces2015-asg-elasticsearch-autoscalinggroup-Low-CPU-Utilization in state ALARM triggered policy my-scaling-policy changing the desired capacity from 3 to 4. At 2015-11-24T16:55:51Z an instance was started in response to a difference between desired and actual capacity, increasing the capacity from 3 to 4.

Elasticsearch

ces2015-asg-elasticsearch-elb-1716569693.eu-west-1.elb.amazonaws.com:9200/_plugin/head/

Elasticsearch <http://ces2015-asg-elasticsearch-elb-1716569693.eu-w> Se connecter **elasticsearch-cluster** Santé du cluster: green (15 15) [Info](#)

Aperçu Index Navigateur Recherche Structurée [+] Autres requêtes [+]

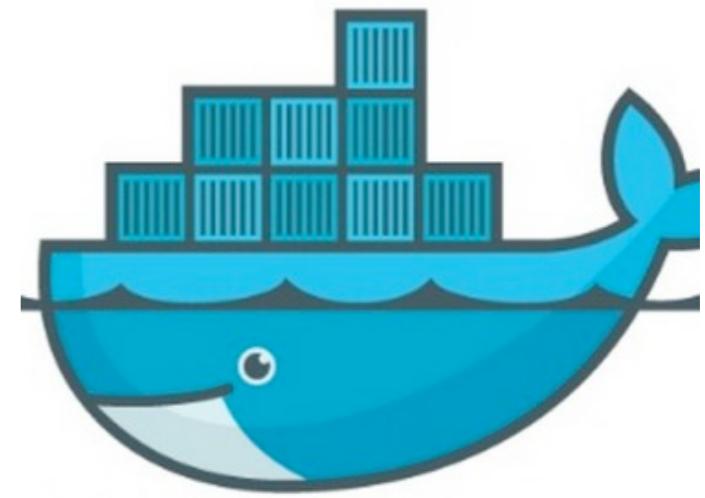
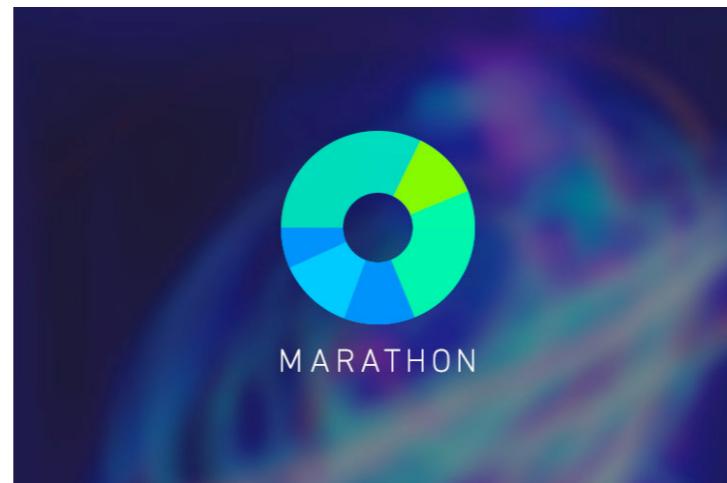
Aperçu du cluster [Sort Cluster](#) [View Aliases](#) [Index Filter](#) [Rafraîchir](#)

comics
size: 9.02ki (9.02ki)
docs: 3 (3)
[Info](#) [Actions](#)

● Bres	0	1	2	
● Damion Hellstrom	0	2	3	4
★ Mole Man	0	1	3	4
● Starstreak	1	2	3	4

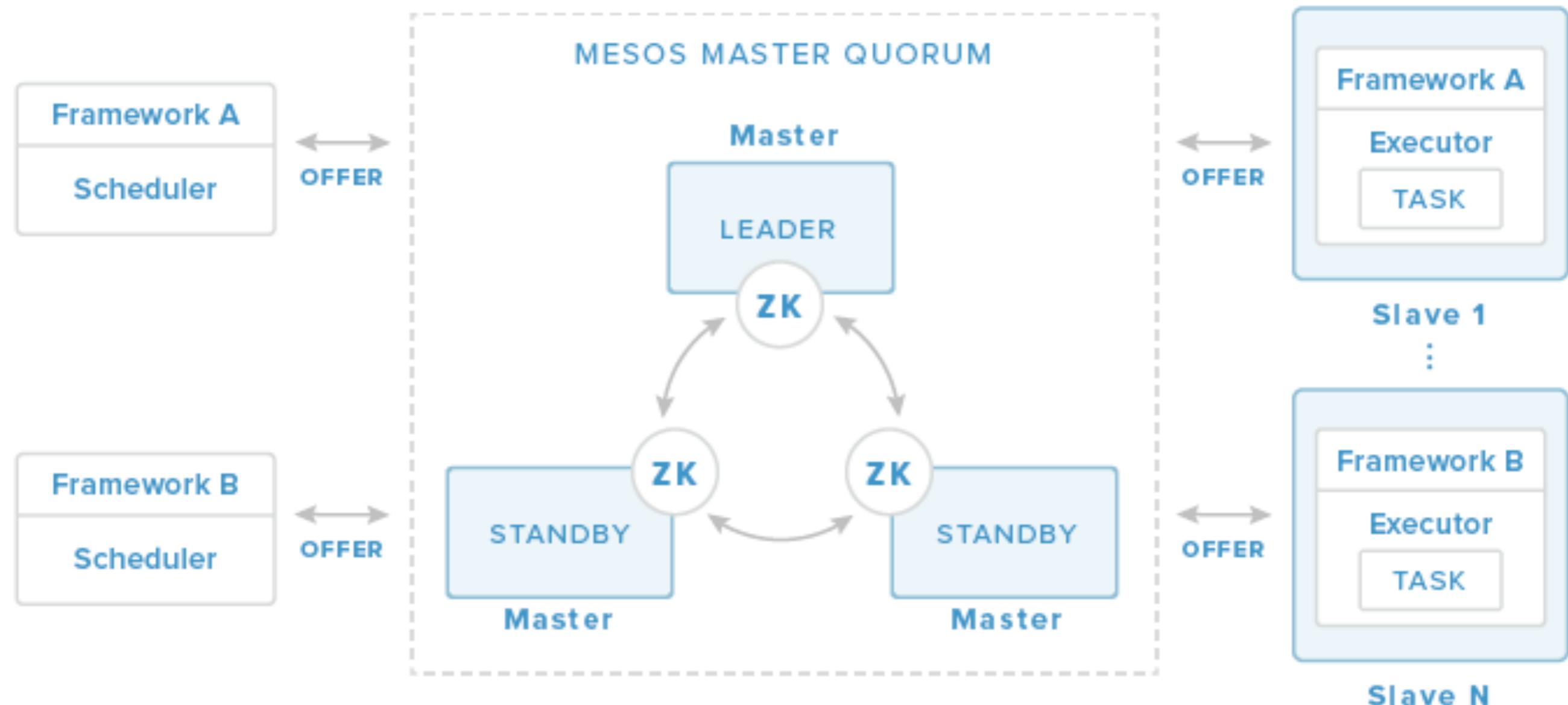
ON PREMISE

Mesosphere

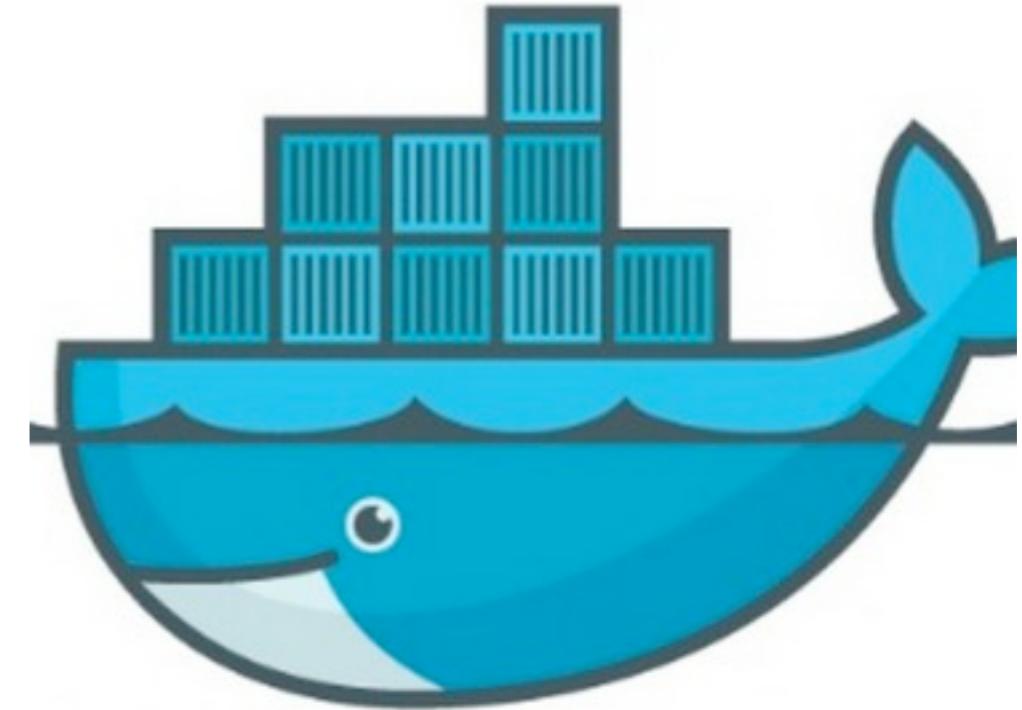
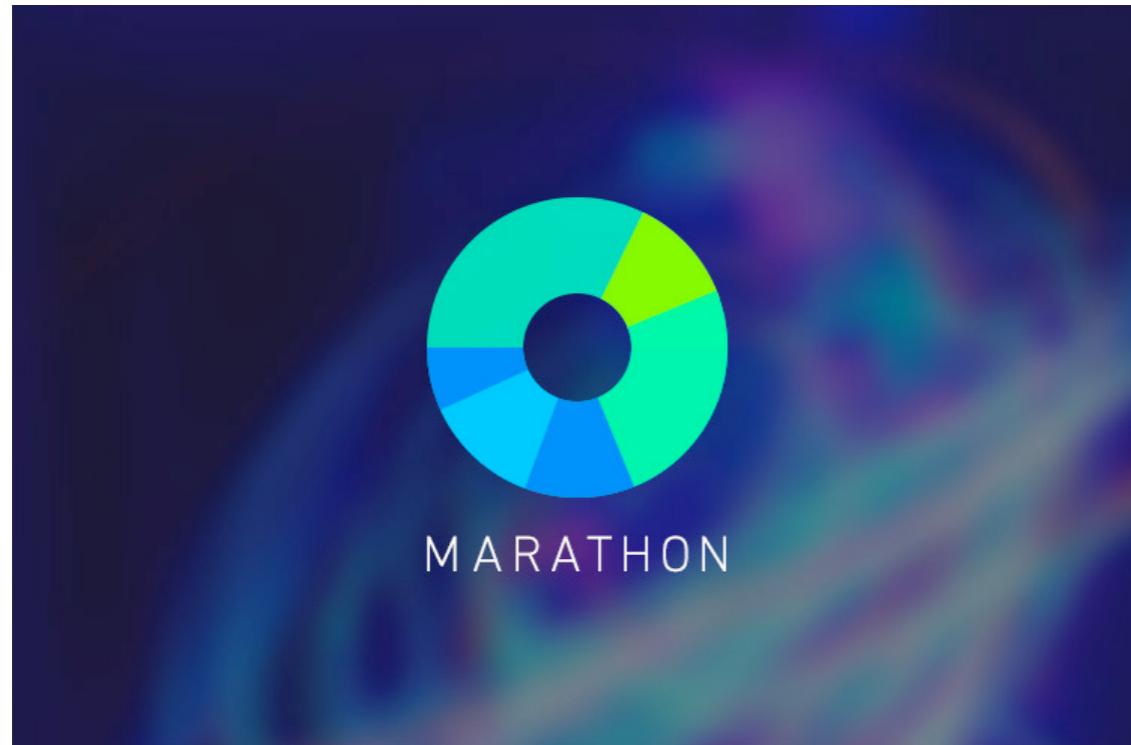


Mesos

@Twitter / AirBnB



Marathon / Docker



Démo



<https://github.com/vspiewak/ces-2015-talk>

Setup avec Ansible

- ▶ Création des instances EC2
- ▶ Configuration de Zookeeper
- ▶ Configuration des Mesos Masters
- ▶ Configuration des Mesos Slaves
- ▶ Configuration de Marathon
- ▶ Configuration de Sensu

Setup avec Ansible

```
3. bash
MAC0119385:ansible-mesosphere vince$ ansible-playbook -i inventory/ec2.py playbooks/site.yml

PLAY [ces2015_dev_zookeeper] ****
GATHERING FACTS ****
ok: [52.31.227.227]
ok: [52.31.209.253]
ok: [52.31.219.168]

TASK: [all | Configuring Timezone] ****
changed: [52.31.227.227]
changed: [52.31.209.253]
changed: [52.31.219.168]

TASK: [all | Update APT] ****
ok: [52.31.227.227]
ok: [52.31.209.253]
ok: [52.31.219.168]

TASK: [all | Install curl] ****
ok: [52.31.227.227]
ok: [52.31.209.253]
ok: [52.31.219.168]

TASK: [all | Install NTP] ****
ok: [52.31.227.227]
ok: [52.31.219.168]
ok: [52.31.209.253]

TASK: [all | Enable NTP service] ****
changed: [52.31.227.227]
changed: [52.31.209.253]
changed: [52.31.219.168]

TASK: [java | Install WebUpd8 APT Key] ****
```

Stack Mesosphere

Launch Instance Connect Actions ▾

Filter by tags and attributes or search by keyword

<input type="checkbox"/>	Name	Instance ID	Instance Type	Availability Zone	Instance State
<input checked="" type="checkbox"/>	ces2015.dev.marathon	i-259feb9d	t2.micro	eu-west-1a	running
<input type="checkbox"/>	ces2015.dev.mesos_master	i-389feb80	t2.micro	eu-west-1a	running
<input type="checkbox"/>	ces2015.dev.mesos_master	i-399feb81	t2.micro	eu-west-1a	running
<input type="checkbox"/>	ces2015.dev.mesos_master	i-3a9feb82	t2.micro	eu-west-1a	running
<input type="checkbox"/>	ces2015.dev.mesos_slave	i-689de9d0	t2.micro	eu-west-1a	running
<input type="checkbox"/>	ces2015.dev.mesos_slave	i-6b9de9d3	t2.micro	eu-west-1a	running
<input type="checkbox"/>	ces2015.dev.zookeeper	i-8b9eea33	t2.micro	eu-west-1a	running
<input type="checkbox"/>	ces2015.dev.zookeeper	i-949eea2c	t2.micro	eu-west-1a	running
<input type="checkbox"/>	ces2015.dev.zookeeper	i-959eea2d	t2.micro	eu-west-1a	running
<input type="checkbox"/>	ces2015.dev.sensu	i-f09eea48	t2.micro	eu-west-1a	running

Monitoring Sensu

The screenshot shows the Uchiwa web interface for monitoring Sensu checks. The title bar reads "Checks | Uchiwa" and the address bar shows "52.31.121.121:3000/#/checks". The sidebar on the left is titled "uchima" and lists various monitoring categories with counts: 0 for alerts, 1 for datacenters, 16 for email, 0 for jobs, 0 for files, and 1 for clouds. The main content area is titled "CHECKS >" and shows a table of 16 checks across all datacenters. The table columns are "Name", "Command", "Subscribers", and "Status".

Name	Command	Subscribers	Status
check-marathon-1	/etc/sensu/plugins/check-marathon.rb -s 172.31.35.158	marathon	Sensu 60
check-marathon-http-1	/etc/sensu/plugins/check-http.rb -u http://172.31.35.158:8080/ui -r	marathon	Sensu 60
check-mesos-master-1	/etc/sensu/plugins/check-mesos.rb -s 172.31.34.97 -m master	mesos	Sensu 60
check-mesos-master-2	/etc/sensu/plugins/check-mesos.rb -s 172.31.34.98 -m master	mesos	Sensu 60
check-mesos-master-3	/etc/sensu/plugins/check-mesos.rb -s 172.31.34.99 -m master	mesos	Sensu 60
check-mesos-slave-1	/etc/sensu/plugins/check-mesos.rb -s 172.31.41.39 -m slave	mesos	Sensu 60
check-mesos-slave-2	/etc/sensu/plugins/check-mesos.rb -s 172.31.41.40 -m slave	mesos	Sensu 60
check-zookeeper-marathon-topic-1	/etc/sensu/plugins/check-znode.rb -s 172.31.33.151:2181 -z /marathon	zookeeper	Sensu 60
check-zookeeper-marathon-topic-2	/etc/sensu/plugins/check-znode.rb -s 172.31.33.150:2181 -z /marathon	zookeeper	Sensu 60
check-zookeeper-marathon-topic-3	/etc/sensu/plugins/check-znode.rb -s 172.31.33.149:2181 -z /marathon	zookeeper	Sensu 60
check-zookeeper-mesos-topic-1	/etc/sensu/plugins/check-znode.rb -s 172.31.33.151:2181 -z /mesos	zookeeper	Sensu 60
check-zookeeper-mesos-topic-2	/etc/sensu/plugins/check-znode.rb -s 172.31.33.150:2181 -z /mesos	zookeeper	Sensu 60
check-zookeeper-mesos-topic-3	/etc/sensu/plugins/check-znode.rb -s 172.31.33.149:2181 -z /mesos	zookeeper	Sensu 60
check-zookeeper-zookeeper-topic-1	/etc/sensu/plugins/check-znode.rb -s 172.31.33.151:2181 -z /zookeeper	zookeeper	Sensu 60
check-zookeeper-zookeeper-topic-2	/etc/sensu/plugins/check-znode.rb -s 172.31.33.150:2181 -z /zookeeper	zookeeper	Sensu 60
check-zookeeper-zookeeper-topic-3	/etc/sensu/plugins/check-znode.rb -s 172.31.33.149:2181 -z /zookeeper	zookeeper	Sensu 60

Mesos Resources

Mesos	Frameworks	Slaves	Offered
Finished		7	
Killed		11	
Failed		0	
Lost		2	
Resources			
	CPUs	Mem	
Total	2	998 MB	
Used	0	0 B	
Offered	0	0 B	
Idle	2	998 MB	

Mesos Frameworks

Mesos	Frameworks	Slaves	Offers	ces2015.dev_mesos-cluster
-------	------------	--------	--------	---------------------------

Active Frameworks

ID ▼	Host	User	Name	Active Tasks	CPUs	Mem	Max Share	Registered	Re-Registered
...9256-f3ae63a77a28-0000	52.30.41.21	root	marathon	0	0	0 B	0%	2 hours ago	-

Terminated Frameworks

ID ▼	Host	User	Name	Registered	Unregistered
------	------	------	------	------------	--------------

Mesos Slaves

Mesos	Frameworks	Slaves	Offers	ces2015.dev.mesos-cluster
-------	------------	--------	--------	---------------------------

Slaves

ID ▼	Host	CPUs	Mem	Disk	Registered	Re-Registered
...9256-f3ae63a77a28-S4	54.77.114.70	1	499 MB	3.9 GB	2 hours ago	
...9256-f3ae63a77a28-S2	52.30.161.43	1	499 MB	3.9 GB	2 hours ago	

Marathon

A screenshot of a web browser window displaying the Marathon UI. The browser title bar shows 'Marathon' and the address bar shows '52.30.41.21:8080/ui/#/apps'. The page has a dark theme with a header containing the Marathon logo, 'MARATHON', 'About', and 'Docs'. Below the header is a search bar with a 'Filter list' placeholder and a green button labeled '+ New App'. A table header row includes columns for 'ID', 'Memory (MB)', 'CPUs', 'Tasks / Instances', 'Health', and 'Status'. A message 'No running apps.' is centered below the table.

ID	Memory (MB)	CPUs	Tasks / Instances	Health	Status
No running apps.					

Deploy NGINX

```
MAC0119385:ansible-mesosphere vince$ cat nginx.json
{
  "id": "nginx",
  "cpus": 0.25,
  "mem": 128.0,
  "instances": 1,
  "container": {
    "type": "DOCKER",
    "docker": {
      "image": "vspiewak/nginx",
      "network": "BRIDGE",
      "portMappings": [
        { "containerPort": 80, "hostPort": 0, "servicePort": 0, "protocol": "tcp" }
      ]
    }
  },
  "healthChecks": [
    {
      "protocol": "HTTP",
      "portIndex": 0,
      "path": "/",
      "gracePeriodSeconds": 5,
      "intervalSeconds": 20,
      "maxConsecutiveFailures": 3
    }
  ]
}
MAC0119385:ansible-mesosphere vince$ curl -XPOST -H 'Content-Type: application/json' http://52.30.41.21:8080/v2/apps -d @nginx.json
{"id":"/nginx","cmd":null,"args":null,"user":null,"env":{},"instances":1,"cpus":0.25,"mem":128.0,"disk":0.0,"executor":"","constraints":[],"uris":[],"storeUrls":[],"ports":[],"requirePorts":false,"backoffSeconds":1,"backoffFactor":1.15,"maxLaunchDelaySeconds":3600,"container":{"type": "DOCKER","volumes":[],"docker":{"image": "vspiewak/nginx","network": "BRIDGE","portMappings": [{"containerPort": 80,"hostPort": 0,"servicePort": 0,"protocol": "tcp"}],"privileged": false,"parameters": [],"forcePullImage": false}),"healthChecks": [{"path": "/","protocol": "HTTP","portIndex": 0,"gracePeriodSeconds": 5,"intervalSeconds": 20,"timeoutSeconds": 20,"maxConsecutiveFailures": 3,"ignoreHttp1xx": false}],"dependencies": [],"upgradeStrategy": {"minimumHealthCapacity": 1.0,"maximumOverCapacity": 1.0}, "labels": {}, "acceptedResourceRoles": null,"version": "2015-11-24T15:46:34.819Z","tasksStaged": 0,"tasksRunning": 0,"tasksHealthy": 0,"tasksUnhealthy": 0,"deployments": [{"id": "866508ec-6432-415a-bd0a-700259b424ee"}],"tasks": []}MAC0119385:ansible-mesosphere vince$
```

Marathon App

The screenshot shows the Marathon application interface. At the top, there's a navigation bar with icons for red, yellow, and green status, followed by the title "Marathon". On the right of the title is a user placeholder "Vince". Below the title is a URL bar showing "52.30.41.21:8080/ui/#/apps/%2Fnginx". To the right of the URL bar are a star icon and a menu icon.

The main content area has a dark header with the "MARATHON" logo, a "Apps" tab (which is active, indicated by a teal underline), a "Deployments" tab, and "About" and "Docs" links.

Below the header, the path "Apps > /nginx" is displayed. The main section shows the app details for "/nginx":

- Status: Running
- Action buttons: Suspend, Scale, Restart App, Destroy App
- Task tabs: Tasks (active, teal underline), Configuration, Debug
- Refresh button: ⏪ Refresh
- Table headers: ID, Status, Version, Updated, Health
- Table data:

ID	Status	Version	Updated	Health
nginx.8a6fc737-92c2-11e5-9542-0a979705a179 54.77.114.70:31187	Started	2 minutes ago	24/11/2015 16:46:35	Green dot

Scale

The screenshot shows the Marathon UI interface. At the top, there's a header bar with the title "Marathon" and a user profile "Vince". Below the header is a navigation bar with links for "Apps" (which is active, indicated by a green underline) and "Deployments". There's also a "Filter list" input field and a "+ New App" button.

The main content area displays a table of applications. The columns are labeled "ID", "Memory (MB)", "CPUs", "Tasks / Instances", "Health", and "Status". A single row is present in the table, corresponding to the application "/nginx". The "Memory (MB)" value is 384, "CPUs" is 0.75, "Tasks / Instances" is 3 / 3, and the "Health" status is represented by a green progress bar. The "Status" column shows "Deploying".

ID	Memory (MB)	CPUs	Tasks / Instances	Health	Status
/nginx	384	0.75	3 / 3	<div style="width: 100%; background-color: green;"></div>	Deploying

killall nginx

```
3. admin@ip-172-31-41-39: ~
root@ip-172-31-41-39:/home/admin# docker logs -f 0fbb5cdd9d85
2015-11-24 15:48:52,924 CRIT Supervisor running as root (no user in config file)
2015-11-24 15:48:52,924 WARN Included extra file "/etc/supervisor/conf.d/nginx.conf" during parsing
2015-11-24 15:48:52,942 INFO RPC interface 'supervisor' initialized
2015-11-24 15:48:52,942 CRIT Server 'unix_http_server' running without any HTTP authentication checking
2015-11-24 15:48:52,942 INFO supervisord started with pid 1
2015-11-24 15:48:53,944 INFO spawned: 'nginx' with pid 9
2015-11-24 15:48:54,953 INFO success: nginx entered RUNNING state, process has stayed up for > than 1 seconds (startsecs)
2015-11-24 15:53:26,539 INFO exited: nginx (exit status 0; expected)
2015-11-24 15:53:27,541 INFO spawned: 'nginx' with pid 47
2015-11-24 15:53:28,550 INFO success: nginx entered RUNNING state, process has stayed up for > than 1 seconds (startsecs)
[]

admin@ip-172-31-41-39: ~
root@ip-172-31-41-39:/home/admin# docker exec -it 0fbb5cdd9d85 bash
root@0fbb5cdd9d85:/# killall nginx
root@0fbb5cdd9d85:/# ps -eaf
UID      PID  PPID  C STIME TTY          TIME CMD
root        1      0  0 15:48 ?        00:00:00 /usr/bin/python /usr/bin/supervisord -
root       30      0  0 15:53 ?        00:00:00 bash
root       47      1  0 15:53 ?        00:00:00 nginx: master process /usr/sbin/nginx
www-data   48      47  0 15:53 ?        00:00:00 nginx: worker process
www-data   49      47  0 15:53 ?        00:00:00 nginx: worker process
www-data   50      47  0 15:53 ?        00:00:00 nginx: worker process
www-data   51      47  0 15:53 ?        00:00:00 nginx: worker process
root       52     30  0 15:53 ?        00:00:00 ps -eaf
root@0fbb5cdd9d85:/#
```

killall supervisord



4. admin@ip-172-31-41-40: ~ (ssh)

```
root@ip-172-31-41-40:/home/admin# clear
root@ip-172-31-41-40:/home/admin# docker ps -q
693b580efcec
root@ip-172-31-41-40:/home/admin# docker exec -t 693b580efcec killall supervisord
root@ip-172-31-41-40:/home/admin#
root@ip-172-31-41-40:/home/admin# docker ps -q
39a933749e3a
root@ip-172-31-41-40:/home/admin# █
```

Stop daemon docker

```
4. admin@ip-172-31-41-40: ~ (ssh)

root@ip-172-31-41-40:/home/admin# clear
root@ip-172-31-41-40:/home/admin# docker ps -q
8328c846ca4d
root@ip-172-31-41-40:/home/admin#
root@ip-172-31-41-40:/home/admin# /etc/init.d/docker stop
[ ok ] Stopping docker (via systemctl): docker.service.
root@ip-172-31-41-40:/home/admin#
root@ip-172-31-41-40:/home/admin# docker ps -q
FATA[0000] Cannot connect to the Docker daemon. Is 'docker -d' running on this host?
root@ip-172-31-41-40:/home/admin# █
```

Terminate mesos slave

Filter by tags and attributes or search by keyword					
	Name	Instance ID	Instance Type	Availability Zone	Instance State
<input type="checkbox"/>	ces2015.dev.marathon	i-259feb9d	t2.micro	eu-west-1a	● running
<input type="checkbox"/>	ces2015.dev.mesos_master	i-389feb80	t2.micro	eu-west-1a	● running
<input type="checkbox"/>	ces2015.dev.mesos_master	i-399feb81	t2.micro	eu-west-1a	● running
<input type="checkbox"/>	ces2015.dev.mesos_master	i-3a9feb82	t2.micro	eu-west-1a	● running
<input checked="" type="checkbox"/>	ces2015.dev.mesos_slave	i-689de9d0	t2.micro	eu-west-1a	● terminated
<input type="checkbox"/>	ces2015.dev.mesos_slave	i-6b9de9d3	t2.micro	eu-west-1a	● running
<input type="checkbox"/>	ces2015.dev.zookeeper	i-8b9eea33	t2.micro	eu-west-1a	● running
<input type="checkbox"/>	ces2015.dev.zookeeper	i-949eea2c	t2.micro	eu-west-1a	● running
<input type="checkbox"/>	ces2015.dev.zookeeper	i-959eea2d	t2.micro	eu-west-1a	● running
<input type="checkbox"/>	ces2015.dev.sensu	i-f09eea48	t2.micro	eu-west-1a	● running

Marathon

MARATHON Apps Deployments About Docs ↗

Apps > /nginx

/nginx Running

Suspend Scale Restart App Destroy App

Tasks Configuration Debug

⟳ Refresh

ID	Status	Version	Updated	Health
nginx.00073381-92c6-11e5-9542-0a979705a179 54.77.114.70:31720	Started	24 minutes ago	24/11/2015 17:11:21	●
nginx.0006e65f-92c6-11e5-9542-0a979705a179 54.77.114.70:31053	Started	24 minutes ago	24/11/2015 17:11:21	●
nginx.00070c70-92c6-11e5-9542-0a979705a179 54.77.114.70:31841	Started	24 minutes ago	24/11/2015 17:11:21	●

Conclusion



Questions ?

