

Cloud Computing - Laboratory 03: Auto scaling an App on Amazon Web Services

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Observation of the Auto Scaling Group behavior

After our Auto Scaling Group created, the group has no instances started. To have 1 instance, we have to stop the Instance created. When we try to stop the instance AWS could not get the instance status as you can see in the screenshot below.

	Name	ID d'instance	Type d'instance	Zone de disponib	État de l'instanc	Contrôles des statuts
<input type="checkbox"/>	image_drupa...	i-055ddb5c7c14ab31	t2.micro	us-east-1a	stopped	
<input checked="" type="checkbox"/>		i-0a3f21b7afa48678f	t2.micro	us-east-1a	running	⚠ Impossible de décrire le statut d'instance.
<input type="checkbox"/>	main_drupal...	i-0b362ca41a7e8f486	t2.micro	us-east-1a	stopped	

However, in our Auto Scaling Group, we can see that we have 1 instance started.

	Nom	Configuration / Modèle	Instances	Souhaité	Min	Max	Zones de disponibilité	Stabilisation par déf	Période de grâce c
<input checked="" type="checkbox"/>	hardrick-Drupa...	hardrick-Drupal-Autosc...	1	1	1	3	us-east-1a	300	300

If we return in our instances list, we can see that the instance is well stopped. We can conclude that the problem mentionned before is only a reloading problem.

	Name	ID d'instance	Type d'instance	Zone de disponib	État de l'instanc	Contrôles des statuts
<input type="checkbox"/>	image_drupa...	i-055ddb5c7c14ab31	t2.micro	us-east-1a	stopped	
<input type="checkbox"/>		i-0a3f21b7afa48678f	t2.micro	us-east-1a	terminated	
<input type="checkbox"/>	main_drupal...	i-0b362ca41a7e8f486	t2.micro	us-east-1a	stopped	

One our Auto Scaling Group settled, we execute the command `while true; do sysbench cpu --cpu-max-prime=20000 --threads=4 --time=60 run; done`. With these instructions, the load of the instance will increase and the Auto Scaling Group will create some new instances. We can see the creation of the instances in the screenshot below.

	Nom	Configuration / Modèle	Instances	Souhaité	Min	Max	Zones de disponibilité	Stabilisation par déf	Période de grâce c
<input checked="" type="checkbox"/>	hardrick-Drupa...	hardrick-Drupal-Autosc...	3	3	1	3	us-east-1a	300	300

Groupe Auto Scaling: hardrick-Drupal-Autoscale

Détails Historique de l'activité Stratégies de dimensionnement Instances Supervision Notifications Balises Actions planifiées Hooks de cycle de vie

Filter: Tout statut Q Filtrer l'historique de dimensionnement... X

1 à 7 de 7 Historique(s) des articles

Statut	Description	Heure de début	Date de fin
Réussi	Launching a new EC2 instance: i-0298571ece62b44f4	2020 April 2 11:21:16 UTC+2	2020 April 2 11:22:18 UTC+2
Réussi	Launching a new EC2 instance: i-093af7fa9ec3b75d8	2020 April 2 11:19:19 UTC+2	2020 April 2 11:20:20 UTC+2
Réussi	Updating load balancers/target groups: Successful	2020 April 2 11:15:23 UTC+2	2020 April 2 11:15:24 UTC+2
Réussi	Launching a new EC2 instance: i-01560d1d6626b0342	2020 April 2 11:12:28 UTC+2	2020 April 2 11:13:00 UTC+2
Réussi	Terminating EC2 instance: i-0a3f21b7afa48678f	2020 April 2 11:15:7 UTC+2	2020 April 2 11:12:19 UTC+2
Réussi	Launching a new EC2 instance: i-0a3f21b7afa48678f	2020 April 2 11:06:37 UTC+2	2020 April 2 11:07:09 UTC+2
Échec	Launching a new EC2 instance	2020 April 2 11:05:37 UTC+2	2020 April 2 11:05:37 UTC+2

We can see there was a failure to create a new instance, but in the end, we have our 3 instances as requested in our Auto Scaling Group. In the order, the instances were created in this order (we do not write the one terminating here) :

1. i-01560d1d6626b0342

2. i-093af7fa6ec3b75d8

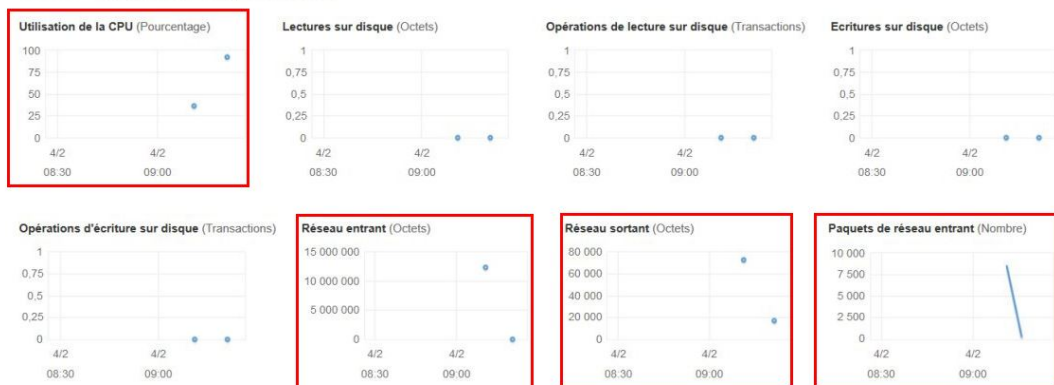
3. i-0298571ece62b44f4

A better view of the instances is available below. Obviously, the instances created by the Auto Scaling Group are the 3 in the state **running**.

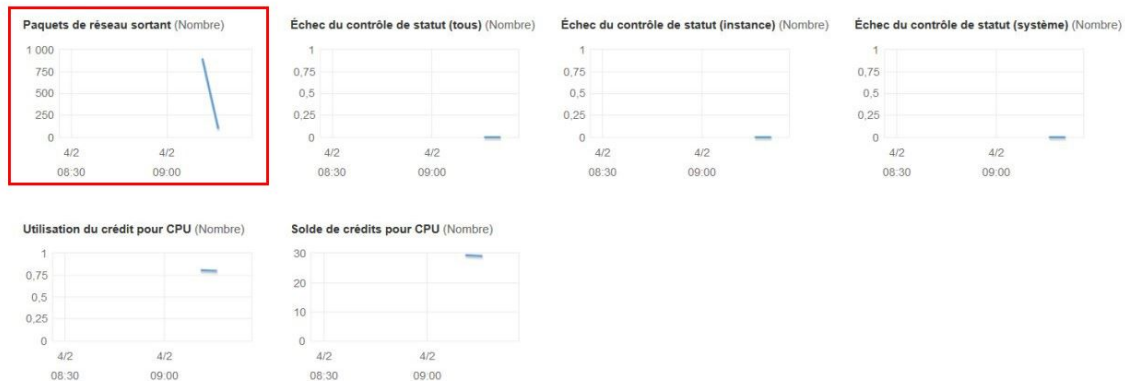
Name	ID d'instance	Type d'instance	Zone de disponib	État de l'instanc	Contrôles des statuts	Statut des alarm	DNS public (IPv4)	IP public
	i-01560d1d6626b03...	t2.micro	us-east-1a	running	2/2 contrôles réussis	Aucun(e)	ec2-54-172-15-127.co...	54.172.15.127
	i-0298571ece62b44f4	t2.micro	us-east-1a	running	2/2 contrôles réussis	Aucun(e)	ec2-3-80-242-124.com...	3.80.242.124
image_drupa...	i-055ddb5c7c14ab31	t2.micro	us-east-1a	stopped		Aucun(e)		-
	i-093af7fa6ec3b75d8	t2.micro	us-east-1a	running	2/2 contrôles réussis	Aucun(e)	ec2-3-90-148-157.com...	3.90.148.157

In the two screenshots below, we can see an important usage of the CPU, some big values for the network traffic. The network values decrease quickly. This change come from the creation of the instances by the Auto Scaling Group.

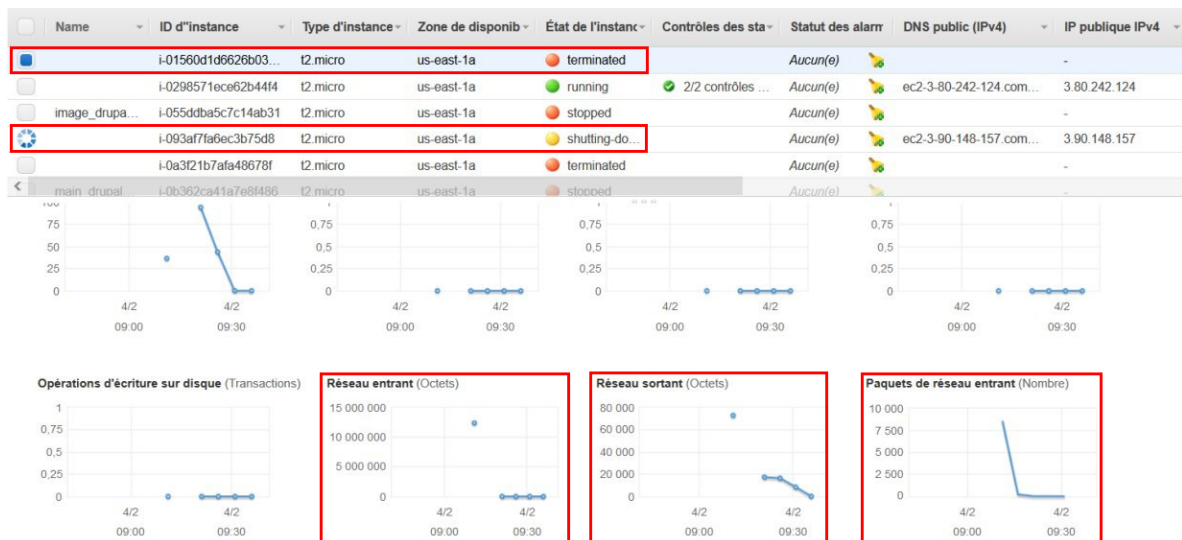
État de l'instanc	Contrôles des statuts	Statut des alarm	DNS public (IPv4)	IP publique IPv4	Adresses IP IPv6	Nom de clé	Surveillance
running	2/2 contrôles réussis	Aucun(e)	ec2-54-172-15-127.co...	54.172.15.127	-	cid-us-east1	enabled
stopped		Aucun(e)				cid-us-east1	enabled



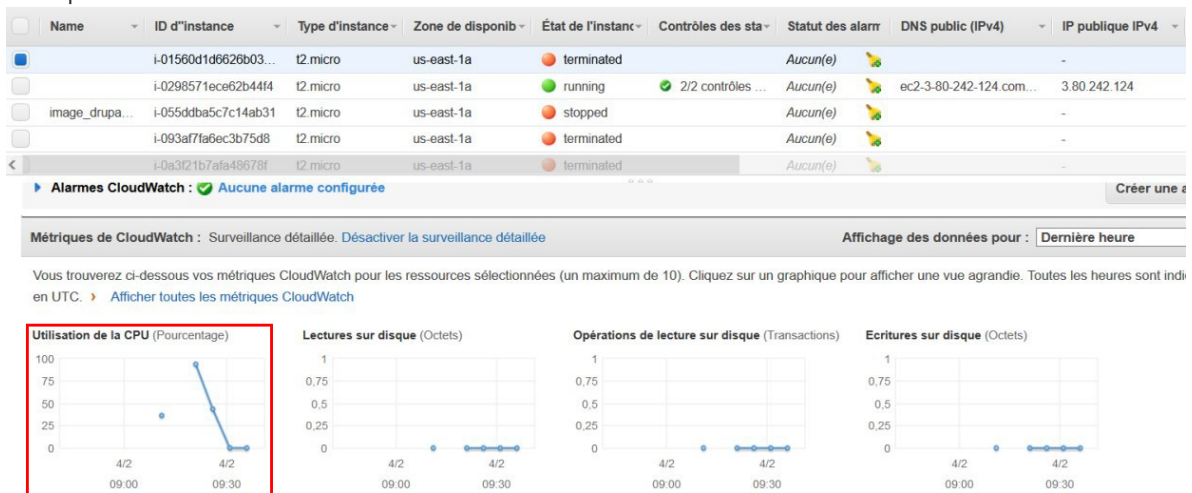
État de l'instanc	Contrôles des statuts	Statut des alarm	DNS public (IPv4)	IP publique IPv4	Adresses IP IPv6	Nom de clé	Surveillance
running	2/2 contrôles réussis	Aucun(e)	ec2-54-172-15-127.co...	54.172.15.127	-	cid-us-east1	enabled
stopped		Aucun(e)				cid-us-east1	enabled



After these informations took, we interrupt the loop describe early to watch the instances being terminated. In the screenshot below, we can see the first instance created is already terminated and the second one is shutting down. The network informations are decreasing because no new requests are incoming.



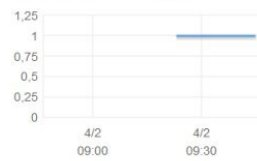
In the screenshot below, we can see our last instance running. The CPU usage is now at the minimum and we can notice that the last instance running is the last created by the Auto Scaling Group.



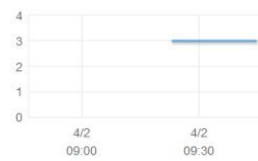
We can see below the instances being terminated to finally have only one instance. The screenshots below are the details of the Auto Scaling Group and the number total of capacity and instances do not have been updated.

	Nom	Configuration / Modèle	Instances	Souhaité	Min	Max	Zones de disponibilité	Stabilisation par défaut	Période de grâce c
	hardrick-Drupa...	hardrick-Drupal-Autosc...	1	1	1	3	us-east-1a	300	300

Taille minimale du groupe (Nombre)



Taille maximale du groupe (Nombre)



Capacité souhaitée (Nombre)



Instances en service (Nombre)



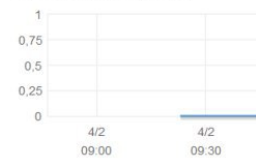
Capacité en service (Nombre)



Instances en suspens (Nombre)



Capacité en attente (Nombre)



Instances en veille (Nombre)

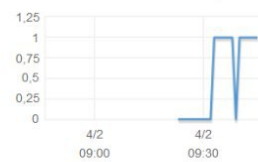


	Nom	Configuration / Modèle	Instances	Souhaité	Min	Max	Zones de disponibilité	Stabilisation par défaut	Période de grâce c
	hardrick-Drupa...	hardrick-Drupal-Autosc...	1	1	1	3	us-east-1a	300	300

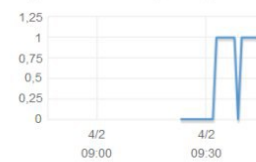
Capacité de secours (Nombre)



Instances en cours de résiliation (Nombre)



Capacité de résiliation (Nombre)



Instances totale (Nombre)



Capacité totale (Nombre)

