Taller de Chaos engineering Carlos Felipe Agudelo Ospina

1. Traza de ejecución en consola

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PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL
                                                                                                                                                                                                                                                                     1: iava
 2018-10-22 23:36:20.852 - INFO BasicJanitorMonkey - [BasicJanitorMonkey.java:128] Janitor Monkey is leashed, no notification is sent
2018-10-22 23:36:20.852 - INFO
BasicJanitorMonkey - [BasicJanitorMonkey.java:131] Cleaning resources with 5 janitors.
2018-10-22 23:36:21.005 - INFO
SimpleDBJanitorResourceTracker - [SimpleDBJanitorResourceTracker.java:117] Retrieved 0 resources from SimpleDB in domain SIMIAN_ARMY for resource type ASG and state MARKED and region us-west-2
2018-10-22 23:36:21.005 - INFO
DBSICJanitorMonkey - [BasicJanitorMonkey.java:132] Checking 0 marked resources for cleanup. LeashMode=true 2018-10-22 23:36:21.006 - INFO
DBSICJanitorMonkey - [BasicJanitorMonkey.java:139] Cleaned 0 resources of type ASG in the last run.
2018-10-22 23:36:21.006 - INFO
DBSICJanitorMonkey - [BasicJanitorMonkey.java:141] Failed to clean 0 resources of type ASG in the last run.
 t run.
2018-10-22 23:36:21.158
2018-10-22 23:36:21.158 - INFO SimpleDBJanitorResourceTracker - [SimpleDBJanitorResourceTracker.java:117] Retrieved 0 resources from SimpleDB in domain SIMIAN_ARMY for resource type INSTANCE and state MARKED and region us-west-2 2018-10-22 23:36:21.158 - INFO AbstractJanitor - [AbstractJanitor.act] Marked resources for cleanup. LeashMode=true 2018-10-22 23:36:21.159 - INFO BasicJanitorMonkey - [BasicJanitorMonkey.java:139] Cleaned 0 resources of type INSTANCE in the last r
 2018-10-22 23:36:21.159 - INFO BasicJanitorMonkey - [BasicJanitorMonkey.java:141] Failed to clean 0 resources of type INSTANCE in th
2018-10-22 23:36:21.313 - INFO SimpleDBJanitorResourceTracker - [SimpleDBJanitorResourceTracker.java:117] Retrieved 0 resources from SimpleDB in domain SIMIAN_ARMY for resource type EBS_VOLUME and state MARKED and region us-west-2 2018-10-22 23:36:21.314 - INFO AbstractJanitor - [AbstractJanitor.java:313] Checking 0 marked resources for cleanup. LeashMode=true 2018-10-22 23:36:21.314 - INFO BasicJanitorMonkey - [BasicJanitorMonkey.java:139] Cleaned 0 resources of type EBS_VOLUME in the last
 run.
2018–10–22 23:36:21.314 – INFO BasicJanitorMonkey – [BasicJanitorMonkey.java:141] Failed to clean 0 resources of type EBS_VOLUME in
the last run.

2018-10-22 23:36:21.469 - INFO SimpleDBJanitorResourceTracker - [SimpleDBJanitorResourceTracker.java:117] Retrieved 0 resources from SimpleDB in domain SIMIXAN_ARMY for resource type EBS_SNAPSHOT and state MARKED and region us-west-2

2018-10-22 23:36:21.470 - INFO AbstractJanitor - [AbstractJanitor.java:313] Checking 0 marked resources for cleanup. LeashMode=true 2018-10-22 23:36:21.470 - INFO BasicJanitorMonkey - [BasicJanitorMonkey.java:139] Cleaned 0 resources of type EBS_SNAPSHOT in the la
 st run.
2018–10–22 23:36:21.470 – INFO BasicJanitorMonkey – [BasicJanitorMonkey.java:141] Failed to clean 0 resources of type EBS_SNAPSHOT i
on the last run.

2018-10-22 23:36:21.624 - INFO SimpleDBJanitorResourceTracker - [SimpleDBJanitorResourceTracker.java:117] Retrieved 0 resources from Sim-leDB in domain SIMIAN_ARMY for resource type LAUNCH_CONFIG and state MARKED and region us-west-2 2018-10-22 23:36:21.624 - INFO AbstractJanitor - [AbstractJanitor.java:313] Checking 0 marked resources for cleanup. LeashMode=true 2018-10-22 23:36:21.625 - INFO BasicJanitorMonkey - [BasicJanitorMonkey.java:139] Cleaned 0 resources of type LAUNCH_CONFIG in the l
ast run.
2018–10–22 23:36:21.625 – INFO BasicJanitorMonkey – [BasicJanitorMonkey.java:141] Failed to clean 0 resources of type LAUNCH_CONFIG
2018-10-22 23:36:21.625 - INFO BasicJanitorMonkey - [BasicJanitorMonkey.]ava:141] Faited to cleam a resources of type Exoken_com is in the last run.
2018-10-22 23:36:22.182 - INFO AWSEmailNotifier - [AWSEmailNotifier.java:88] Email to cf.agudelo12@uniandes.edu.co, result id is 010
001669f359994-21985e71-df30-467c-a7ef-546531bb6b80-000000, subject is Janitor monkey execution summary (default, us-west-2)
2018-10-22 23:36:22.182 - INFO Monkey - [Monkey.java:138] Reporting what I did...
 > Building 75% > :jettyRun > Running at http://localhost:8080/simianarmy
```

ed as a cleanup candidate.
2018-10-22 23:37:25.959 - INFO
BasicJanitorMonkey - [BasicJanitorMonkey.java:119] Marked 0 resources of type EBS_VOLUME in the last number of the control of th

> Building 75% > :jettyRun > Running at http://localhost:8080/simianarmy

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PROBLEMS OUTPUT DEBUG CONSOLE
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 ashMode=true
2018-10-22 23:48:29.264 - INFO  BasicJanitorRuleEngine - [BasicJanitorRuleEngine.java:101] Resource vol-02ce2c95f968f0f93 is not mark
2018-10-22 23:48:29.265 - INFO BasicJanitorMonkey - [BasicJanitorMonkey.java:119] Marked 0 resources of type EBS_VOLUME in the last
 . 2018-10-22 23:48:29.266 - INFO BasicJanitorMonkey - [BasicJanitorMonkey.java:121] Unmarked 0 resources of type EBS_VOLUME in the las
2018-10-22 23:48:29.200 - INFO
BasicJanitorMonkey - [BasicJanitorMonkey.java:112] Running EBS_SNAPSHOT janitor for region us-west-2
2018-10-22 23:48:29.434 - INFO
SimpleDBJanitorResourceTracker - [SimpleDBJanitorResourceTracker.java:117] Retrieved 0 resources from
SimpleDB in domain SIMIAN_ARMY for resource type EBS_SNAPSHOT and state MARKED and region us-west-2
2018-10-22 23:48:29.435 - INFO
AWSCLient - [AWSCLient.java:75] Getting all AMIs in region us-west-2.
2018-10-22 23:48:29.790 - INFO
AWSCLient - [AWSCLient.java:365] Got 1 auto-scaling groups in region us-west-2.
2018-10-22 23:48:30.646 - INFO
AWSCLient - [AWSCLient.java:386] Got 1 ELBs in region us-west-2.
2018-10-22 23:48:30.646 - INFO
AWSCLient - [AWSCLient.java:386] Got 1 ELBs in region us-west-2.
2018-10-22 23:48:30.646 - INFO
BasicConformityMonkey - [BasicConformityMonkey.java:159] Cluster awseb-e-vh5zppfduy-stack-AWSEBAutoSc
 alingGroup-1M7ZY5VK5LLN5 is not conforming
2018-10-22 23:48:30.646 – INFO BasicConformityMonkey – [BasicConformityMonkey.java:166] The conformity monkey is leashed, no data ch
ange is made for cluster awseb-e-vh5zppfduy-stack-AWSEBAutoScalingGroup-1M7ZY5VK5LLN5.
2018-10-22 23:48:30.646 – INFO ConformityRuleEngine – [ConformityRuleEngine.java:49] Running conformity rule InstanceInSecurityGroup
 on cluster monkey-target
2018-10-22 23:48:30.647 -
2018-10-22 23:48:31.352 -
                                                                           INF0
                                                                                            AWSClient - [AWSClient.java:465] Getting EC2 instances for 1 ids in region us-west-2.

AWSClient - [AWSClient.java:480] Got 1 EC2 instances in region us-west-2.

InstanceInSecurityGroup - [InstanceInSecurityGroup.java:153] Instance i-0eb21b5554f2dc03f is in VPC a
 2018-10-22 23:48:31.352 - INFO
2018-10-22 23:48:31.352 - INFO
 2018-10-22 23:48:31.353 - INFO ConformityRuleEngine - [ConformityRuleEngine.java:49] Running conformity rule InstanceTooOld on clust
 er monkey-target
2018-10-22 23:48:31.353 – INFO AWSClient – [AWSClient.java:465] Getting EC2 instances for 1 ids in region us-west-2.
2018-10-22 23:48:32.012 – INFO AWSClient – [AWSClient.java:480] Got 1 EC2 instances in region us-west-2.
2018-10-22 23:48:32.013 – INFO ConformityRuleEngine – [ConformityRuleEngine.java:49] Running conformity rule SameZonesInElbAndAsg on
 2018-10-22 23:48:32.013 - INFO

Cluster monkey-target

2018-10-22 23:48:32.013 - INFO

2018-10-22 23:48:32.765 - INFO

2018-10-22 23:48:32.766 - INFO

2018-10-22 23:48:33.431 - INFO

2018-10-22 23:48:33.431 - INFO
                                                                                            AWSClient - [AWSClient.java:346] Getting auto-scaling groups for 1 names in region us-west-2.

AWSClient - [AWSClient.java:365] Got 1 auto-scaling groups in region us-west-2.

AWSClient - [AWSClient.java:346] Getting auto-scaling groups for 1 names in region us-west-2.

AWSClient - [AWSClient.java:365] Got 1 auto-scaling groups in region us-west-2.

BasicConformityMonkey - [BasicConformityMonkey.java:156] Cluster monkey-target is conforming

BasicConformityMonkey - [BasicConformityMonkey.java:166] The conformity monkey is leashed, no data ch
 2018-10-22 23:48:33.432 - INFO BasicConformityMonkey - [BasicConformityMonkey.]ava:166] The conformity monkey is leashed, no data change is made for cluster monkey-target.

2018-10-22 23:48:33.432 - INFO BasicConformityMonkey - [BasicConformityMonkey.]ava:174] Conformity monkey is leashed, no notificatio
2018-10-22 23:48:33.970 - INFO AWSEmailNotifier - [AWSEmailNotifier.java:88] Email to cf.agudelo12@uniandes.edu.co, result id is 010 001669f40c3e5-794a54d7-91ba-41f6-b9e4-191ded2015ff-000000, subject is Conformity monkey execution summary (us-west-2) 2018-10-22 23:48:33.971 - INFO Monkey - [Monkey.java:138] Reporting what I did...
  > Building 75% > :iettvRun > Running at http://localhost:8080/simianarmv
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL
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2018-10-22 23:50:19.779 - INFO AbstractJanitor - [AbstractJanitor.java:246] Looking for cleanup cand got lucky Aa 🔠 * ← → 🗴 e
ashMode=true
2018-10-22 23:50:19.779 - INFO
ed as a cleanup candidate.
2018-10-22 23:50:19.779 - INFO
ed as a cleanup candidate.
2018-10-22 23:50:19.779 - INFO
ed as a cleanup candidate.
2018-10-22 23:50:19.780 - INFO
BasicJanitorRuleEngine - [BasicJanitorRuleEngine.java:101] Resource vol-02ce2c95f968f0f93 is not mark
ed as a cleanup candidate.
2018-10-22 23:50:19.780 - INFO
BasicJanitorMonkey - [BasicJanitorMonkey.java:119] Marked 0 resources of type EBS_VOLUME in the last
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2018–10–22 23:50:19.782 – INFO BasicJanitorMonkey – [BasicJanitorMonkey.java:121] Unmarked 0 resources of type EBS_VOLUME in the las
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BasicConformityMonkey - [BasicConformityMonkey.java:166] The conformity monkey is leashed, no data ch
-e-vh5zppfduy-stack-AW5EBAutoScalingGroup-IM7ZY5VK5LLN5.
ConformityRuleEngine - [ConformityRuleEngine.java:49] Running conformity rule InstanceInSecurityGroup
2018-10-22 23:50:21.047 - INFO
ange is made for cluster awseb-
2018-10-22 23:50:21.048 - INFO
on cluster monkey-target
2018-10-22 23:50:21.048 - INFO
2018-10-22 23:50:21.664 - INFO
2018-10-22 23:50:21.664 - INFO
                                                                                          AWSClient - [AWSClient.java:465] Getting EC2 instances for 1 ids in region us-west-2.

AWSClient - [AWSClient.java:480] Got 1 EC2 instances in region us-west-2.

InstanceInSecurityGroup - [InstanceInSecurityGroup.java:153] Instance i-0eb21b5554f2dc03f is in VPC a
2018-10-22 23:50:21.004 - INFO InstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanceInstanc
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2018-10-22 23:50:22.992 - INFO
2018-10-22 23:50:22.993 - INFO
                                                                                          AWSClient - [AWSClient.java:346] Getting auto-scaling groups for 1 names in region us-west-2.

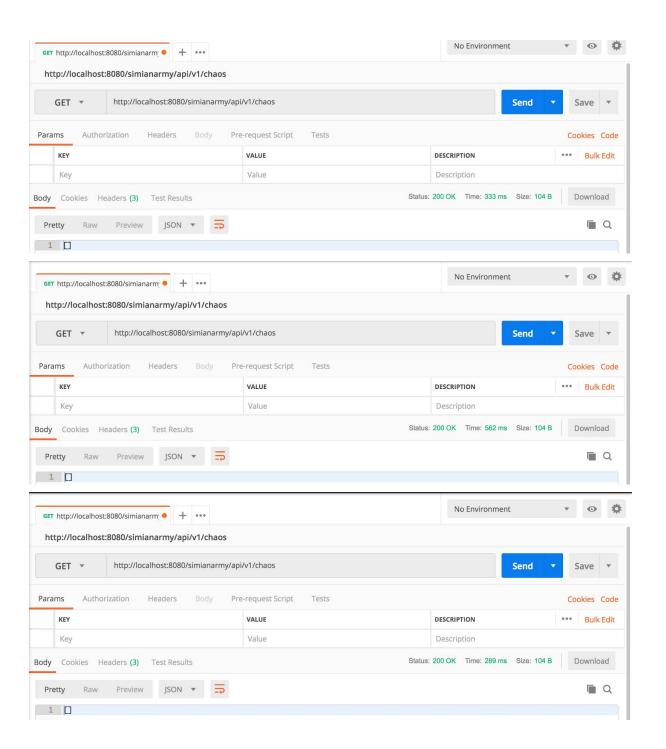
AWSClient - [AWSClient.java:365] Got 1 auto-scaling groups in region us-west-2.

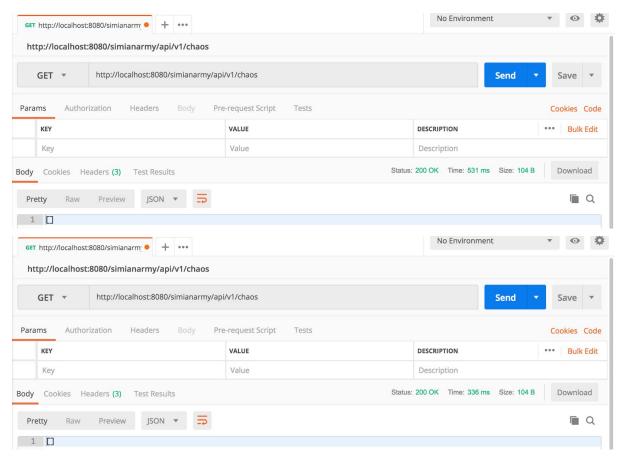
AWSClient - [AWSClient.java:346] Getting auto-scaling groups for 1 names in region us-west-2.

AWSClient - [AWSClient.java:365] Got 1 auto-scaling groups in region us-west-2.

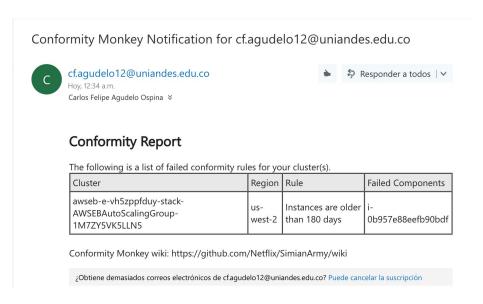
BasicConformityMonkey - [BasicConformityMonkey.java:156] Cluster monkey-target is conforming
BasicConformityMonkey - [BasicConformityMonkey.java:166] The conformity monkey is leashed, no data ch
 2018-10-22 23:50:23.700 - INFO
2018-10-22 23:50:23.701 - INFO
2018-10-22 23:50:23.702 - INFO
                                                cluster monkey
:23.702 - INFO
                                                                                           -target.
BasicConformityMonkey – [BasicConformityMonkey.java:174] Conformity monkey is leashed, no notificatio
n is sent.
2018-10-22 23:50:24.442 — INFO AWSEmailNotifier — [AWSEmailNotifier.java:88] Email to cf.agudelo12@uniandes.edu.co, result id is 010
001669f427380-fa7a06f8-c499-42d7-9c80-8b8289f50500-000000, subject is Conformity monkey execution summary (us-west-2)
2018-10-22 23:50:24.442 — INFO Monkey — [Monkey.java:138] Reporting what I did...
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> Building 75% > :jettyRun > Running at http://localhost:8080/simianarmy





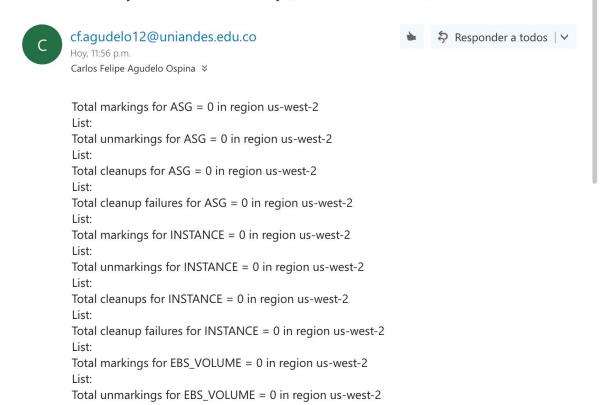
3. Correos recibidos



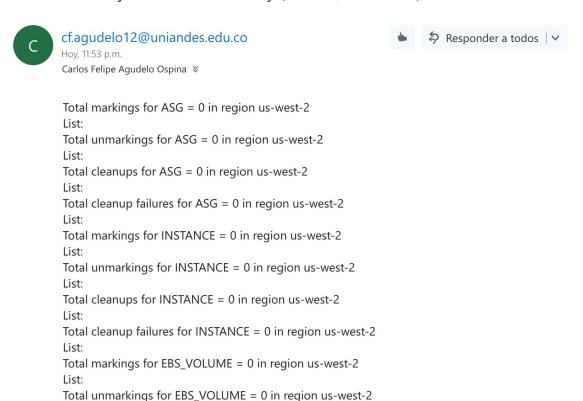
Conformity monkey execution summary (us-west-2)



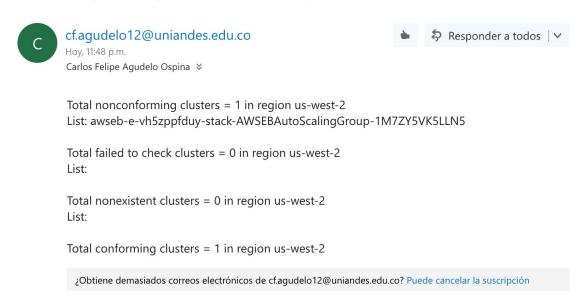
Janitor monkey execution summary (default, us-west-2)

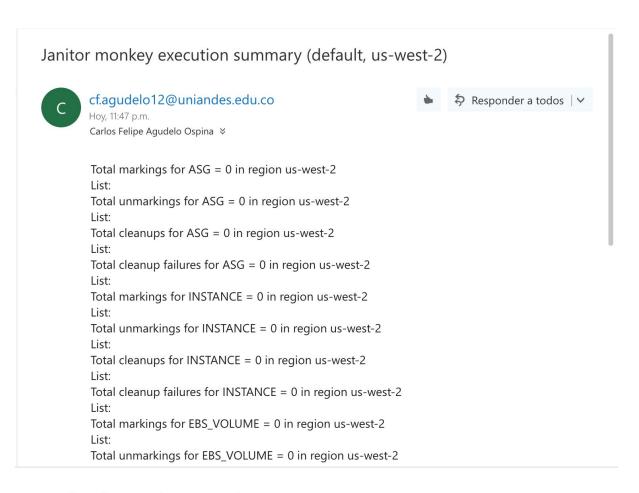


Janitor monkey execution summary (default, us-west-2)

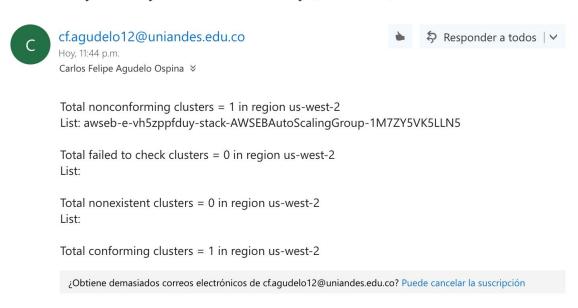


Conformity monkey execution summary (us-west-2)

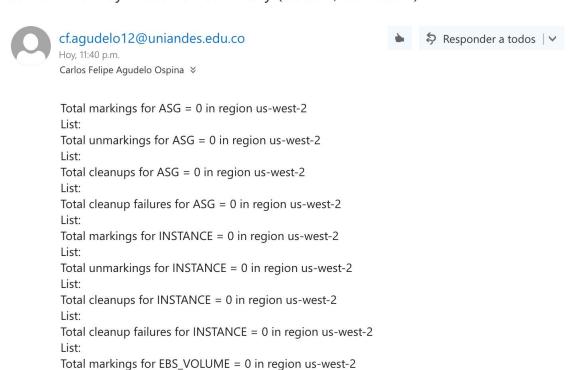




Conformity monkey execution summary (us-west-2)

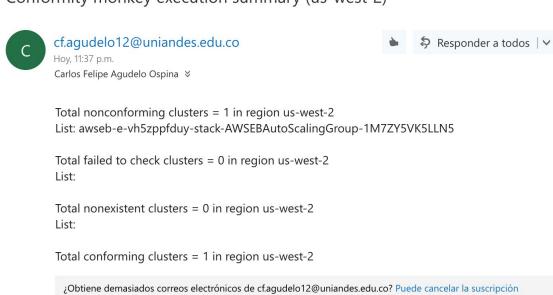


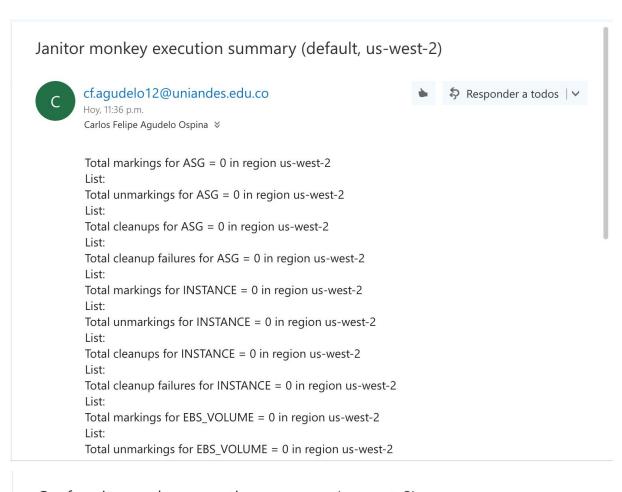
Janitor monkey execution summary (default, us-west-2)



Conformity monkey execution summary (us-west-2)

Total unmarkings for EBS_VOLUME = 0 in region us-west-2





Conformity monkey execution summary (us-west-2)



- **4.** Chaos monkey strategies: Las siguientes propiedades pueden configurarse en el chaos monkey a la hora de su ejecución.
 - a. simianarmy.chaos.terminateOndemand.enabled: Permite terminar el monkey por demanda haciendo uso del servicio REST.

- b. simianarmy.chaos.mandatoryTermination...: Permite configurar la terminación mandatoria de instancias que opten por usar la ventana de tiempo de terminación mandatoria. Se puede configurar de este si está habilitado, la duración de la ventana para terminación obligatoria, la probabilidad de que ocurra la terminación.
- c. simianarmy.chaos.ASG...: Permite configurar el chaos monkey para que actúe sobre todos los grupos de Auto Scaling a menos que estos específicamente no lo permitan. Sobre estas propiedades pueden configurarse si están habilitadas o no, la probabilidad de que ocurran terminaciones en el día, número máximo de terminaciones por día, y configuraciones especiales por grupo de Auto Scaling.
- **d.** simianarmy.chaos.notification...: Permite configurar a quién y qué información se le dará como notificación a alguien antes de que se realicen las terminaciones.
- 5. Janitor monkey rules: Un janitor monkey busca recursos que no están siendo utilizados para limpiarlos. Para llevar a cabo la limpieza el monkey aplica cierto conjunto de reglas para determinar si una instancia debe ser limpiada o no. Se tiende a configurar de este monkey su horario de ejecución de limpieza, las reglas para determinar la terminación de una instancia y las reglas para notificar sobre la terminación de una instancia.

a. Reglas del horario:

- i. simianarmy.scheduler...: Permite configurar la frecuencia con la que el janitor se despierta.
- ii. simianarmy.calendar...: Define reglas sobre la franja horaria en la cual el janitor puede correr.

b. Reglas generales:

- i. simianarmy.janitor.enabled: Prende el janitor monkey para ejecución.
- ii. simianarmy.janitor.leashed: Da o quita el permiso de terminar recursos.

c. Reglas de notificación:

i. simianarmy.janitor.notification...: Permite definir reglas sobre a quién notificarle sobre la futura limpieza de instancias y cuando notificarle.

d. Reglas de terminación de instancias:

i. simianarmy.janitor.enabledResources: Define qué tipo de recursos el janitor puede limpiar.

- ii. simianarmy.janitor.rule.orphanedInstanceRule...: Define reglas sobre la limpieza de instancias que no pertenecen a algún auto scaling group.
- simianarmy.janitor.rule.oldDetachedVolumeRule...: Define reglas sobre la limpieza de volumenes de EBS que no se encuentran asociados a alguna instancia.
- iv. simianarmy.janitor.rule.noGeneratedAMIRule...: Define reglas sobre la limpieza de snapshots que no tienen imágenes que se hayan generados de estos y que se hayan lanzado de estos.
- v. simianarmy.janitor.rule.oldEmptyASGRule...: Define reglas de limpieza de Auto Scaling Groups que no tienen instancias activas y que están viejos en general.
- vi. simianarmy.janitor.rule.suspendedASGRule...: Define reglas de Auto Scaling Groups suspendidos del Load Balancer y que no tienen instancias activas.
- vii. simianarmy.janitor.rule.oldUnusedLaunchConfigRule...: Define reglas de limpieza para launch configurations que no están siendo usadas por ASG o instancia alguna.
- viii. simianarmy.janitor.rule.unusedImageRule...: Define reglas sobre limpiar imágenes que no están siendo usadas.
- **6. Conformity monkey rules:** Un conformity monkey revisa que las instancias sigan un conjunto de mejores prácticas definidas. Se describe a continuación a grosso modo algunas de las opciones de configuración que recibe este tipo de monkey:

a. Reglas del horario:

- i. simianarmy.scheduler...: Permite configurar la frecuencia con la que el conformity monkey se despierta.
- ii. simianarmy.calendar...: Define reglas sobre la franja horaria en la cual el conformity monkey puede correr sus validaciones.

b. Reglas generales:

- i. simianarmy.conformity.enabled: Prende el conformity monkey para ejecución.
- ii. simianarmy.conformity.leashed: Da o quita el permiso de guardar en base de datos los datos de los checks.

c. Reglas de notificación:

i. simianarmy.conformity.notification...: Permite definir reglas sobre a quién notificarle sobre las violaciones a los checks del conformity monkey

d. Reglas de conformidad:

- i. simianarmy.conformity.rule.SameZonesInElbAndAsg.enabled:Habilita el chequeo de que un ASG y su respectivo ELB deben estar en la misma zona de AWS.
- ii. simianarmy.conformity.rule.InstanceInSecurityGroup...: Define reglas sobre los grupos de seguridad que deben estar en el cluster.
- iii. simianarmy.conformity.rule.InstanceTooOld...: Define reglas para chequear la vejez de instancias.
- iv. simianarmy.conformity.rule.InstanceInVPC.enabled: Define reglas para que las instancias se encuentren dentro un VPC.
- v. simianarmy.conformity.cluster...: Define reglas de verificación del cluster.