

# Taller 11: Netflix Simian Army

## Estrategias de ataque del Chaos Monkey

- **Simius Mortus → Apagar una instancia**  
Apaga una instancia de EC2.
- **Simius Quies → Bloquea todo el tráfico**  
A todas las instancias las mueve a un grupo de seguridad que no es accesible por la red.
- **Simius Amputa → Falla de EBS**  
Despega todos los volúmenes EBS de una instancia. La instancia seguirá corriendo pero el IO del disco EBS fallará.
- **Simius Cogitarus → Quema CPU**  
Corre procesos pesados para la CPU.
- **Simius Occupatus → Quema IO**  
Corre procesos pesados para el disco.
- **Simius Plenus → Llena disco**  
Escribe un archivo bastante grande, buscando llenar el disco.
- **Simius Delirus → Mata procesos**  
Simula aplicaciones defectuosas al matar todos los procesos que encuentre cada segundo.
- **Simius Desertus → Rutas nulas**  
Bloquea todo el tráfico entre instancias EC2.
- **Simius Nonomenius → Caída de DNS**  
Bloquea el puerto 53 para TCP y UDP para simular fallas en los servidores de DNS.
- **Simius Nonecius → Caída del API de EC2**  
Bloquea todo el API de EC2.
- **Simius Amnesius → Caída del API de S3**  
Bloquea todo el API de S3.
- **Simius Nodynamus → Caída del API de DynamoDB**  
Bloquea todo el API de DynamoDB.
- **Simius Politicus → CORRUPCION en la red**  
Corrompe una fracción grande de paquetes de red, simulando degradación de la red EC2.

- **Simius Tardus → Latencia en red**  
Introduce una latencia de 1 segundo +-50% a todos los paquetes.
- **Simius Perditus → Pérdidas en red**  
Pierde una fracción de los paquetes de red.
- Se pueden crear monkeys customizables con scripts.

## Reglas del Janitor Monkey

- **Horario**  
Modificando **simianarmy.properties** se puede editar la frecuencia, cuántos threads, y las horas entre las cuales el monkey va a actuar.
- **Habilitar**  
Con **simianarmy.janitor.enabled** se habilita el monkey para que corra y pueda limpiar recursos.
- **Atado**  
Con **simianarmy.janitor.leashed** se puede correr en seco.
- **Dominio de SimpleDB**  
Con **simianarmy.janitor.resources.sdb.domain** especifica el dominio para almacenar los recursos manejados del Janitor Monkey.
- **Emails**  
La gestión de emails se hace con **simianarmy.janitor.notification.sourceEmail**, **simianarmy.janitor.summary.Email.to**, **simianarmy.janitor.notification.defaultEmail**.
- **Días antes de terminación**  
Con **simianarmy.janitor.notification.daysBeforeTermination** se especifica el número de días hábiles que deben pasar para enviar la notificación antes de que el monkey lo saque.
- **Recursos habilitados**  
Con **simianarmy.janitor.enabledResources** se especifica los recursos que el monkey podría manejar. Se pueden elegir instancias de EC3, grupos de scaling, volúmenes EBS, configuraciones de launch e imágenes.
- **Instancias huérfanas**  
Una instancia huérfana es una que no esté en un grupo de auto scaling. Con **simianarmy.janitor.rule.orphanedInstanceRule.enabled** se habilita para aplicar reglas a instancias huérfanas.

- **Instancias viejas**

Para las instancias huérfanas, con **simianarmy.janitor.rule.orphanedInstanceRule.instanceAgeThreshold** se asignan instancias huérfanas como limpiables si llevan desde lanzamiento un número específico de días. La regla para hacer esto con instancias que no tienen dueño es **simianarmy.janitor.rule.orphanedInstanceRule.retentionDaysWithoutOwner**.

- **Caché en volúmenes EBS**

Para habilitar al monkey a limpiar el caché de volúmenes EBS que no estén utilizadas es con **simianarmy.janitor.rule.oldDetachedVolumeRule.enabled**. El tiempo transcurrido para que el janitor actúe se especifica con **simianarmy.janitor.rule.oldDetachedVolumeRule.detachDaysThreshold**.

## Reglas del Conformity Monkey

- **Habilitar**

Con **simianarmy.conformity.enabled** se habilita el monkey para que corra y pueda limpiar recursos.

- **Horario**

Modificando **simianarmy.properties** se puede editar la frecuencia, cuántos threads, y las horas entre las cuales el monkey va a actuar.

- **Atado**

Con **simianarmy.conformity.leashed** se puede correr en seco.

- **Dominio de SimpleDB**

Con **simianarmy.janitor.resources.sdb.domain** especifica el dominio para almacenar los recursos manejados del Janitor Monkey.

- **Emails**

La gestión de emails se hace con **simianarmy.conformity.notification.sourceEmail**, **simianarmy.conformity.summary.Email.to**, **simianarmy.conformity.notification.defaultEmail**.

- **Concordancia entre scaling group y elb**

Con **simianarmy.conformity.rule.SameZonesInElbAndAsg.enabled** se verifica concordancia entre zonas de disponibilidad entre grupos de scaling y balanceador de carga.

- **Requerir grupos de seguridad**

Con **simianarmy.conformity.rule.InstanceInSecurityGroup.enabled** se verifica que todas las instancias en un cluster estén en un mismo grupo de seguridad.

- **Instancias viejas**

Con **simianarmy.conformity.rule.InstanceTooOld.enabled** se habilita al monkey para que revise las instancias viejas. El tiempo para considerar una instancia vieja se configura con **simianarmy.conformity.rule.InstanceTooOld.instanceAgeThreshold**.

- **VPC**

Con **simianarmy.conformity.rule.InstanceInVPC.enabled** se verifica que las instancias estén en una Amazon Virtual Private Cloud.

## Pantallazos

```
jdguzmans@mac-de-usuario: ~/workspace/automated-testing-repo/automated-testing-workshop-11/SimianArmy
File Edit View Search Terminal Help
Total time: 3 mins 9.179 secs

This build could be faster, please consider using the Gradle Daemon: https://docs.gradle.org/2.11/userguide/gradle_daemon.html
jdguzmans@mac-de-usuario:~/workspace/automated-testing-repo/automated-testing-workshop-11/SimianArmy$ ./gradlew jettyRun
Inferred project: simianarmy, version: 2.0.0-SNAPSHOT
[buildinfo] Not using buildinfo properties file for this build.
:compileJava UP-TO-DATE
:processResources
:classes
:jettyRun
SLF4J: Class path contains multiple SLF4J bindings.
SLF4J: Found binding in [jar:file:/home/jdguzmans/.gradle/wrapper/dists/gradle-2.11-bin/452syho4l32rlk2s8ivdjogs8/gradle-2.11/lib/gradle-core-2.11.jar!/org/slf4j/impl/StaticLoggerBinder.class]
SLF4J: Found binding in [jar:file:/home/jdguzmans/.gradle/caches/modules-2/files-2.1/org.slf4j/slf4j-log4j12/1.6.1/bd245d6746cdd4e6203e976e21d597a46f115802/slf4j-log4j12-1.6.1.jar!/org/slf4j/impl/StaticLoggerBinder.class]
SLF4J: See http://www.slf4j.org/codes.html#multiple_bindings for an explanation.
SLF4J: Actual binding is of type [org.slf4j.impl.Log4jLoggerFactory]
2018-10-24 21:16:19.566 INFO BasicMonkeyServer - [BasicMonkeyServer.java:125] using client properties /client.properties
2018-10-24 21:16:19.569 INFO BasicMonkeyServer - [BasicMonkeyServer.java:104] using standard client for simianarmy.client.context.class
2018-10-24 21:16:19.569 INFO BasicMonkeyServer - [BasicMonkeyServer.java:104] using standard client for simianarmy.client.chaos.class
2018-10-24 21:16:19.570 INFO BasicMonkeyServer - [BasicMonkeyServer.java:52] Adding Chaos Monkey.
2018-10-24 21:16:19.814 INFO BasicSimianArmyContext - [BasicSimianArmyContext.java:191] loading properties file: /simianarmy.properties
2018-10-24 21:16:19.815 INFO BasicSimianArmyContext - [BasicSimianArmyContext.java:191] loading properties file: /client.properties
2018-10-24 21:16:19.816 INFO BasicSimianArmyContext - [BasicSimianArmyContext.java:191] loading properties file: /chaos.properties
2018-10-24 21:16:19.817 INFO BasicSimianArmyContext - [BasicSimianArmyContext.java:114] The following are properties in the context.
2018-10-24 21:16:19.817 INFO BasicSimianArmyContext - [BasicSimianArmyContext.java:118] simianarmy.chaos.ASG.monkey-target.probability = 1.0
2018-10-24 21:16:19.818 INFO BasicSimianArmyContext - [BasicSimianArmyContext.java:118] simianarmy.chaos.networkcorruption.enabled = false
2018-10-24 21:16:19.819 INFO BasicSimianArmyContext - [BasicSimianArmyContext.java:118] simianarmy.chaos.shutdowninstance.enabled = true
2018-10-24 21:16:19.819 INFO BasicSimianArmyContext - [BasicSimianArmyContext.java:118] simianarmy.chaos.falldynamodb.enabled = false
2018-10-24 21:16:19.820 INFO BasicSimianArmyContext - [BasicSimianArmyContext.java:118] simianarmy.calendar.timezone = America/Los Angeles
2018-10-24 21:16:19.820 INFO BasicSimianArmyContext - [BasicSimianArmyContext.java:118] simianarmy.chaos.nullroute.enabled = false
2018-10-24 21:16:19.821 INFO BasicSimianArmyContext - [BasicSimianArmyContext.java:118] simianarmy.chaos.mandatorytermination.windowInDays = 32
2018-10-24 21:16:19.822 INFO BasicSimianArmyContext - [BasicSimianArmyContext.java:118] simianarmy.chaos.burnmoney = false
2018-10-24 21:16:19.822 INFO BasicSimianArmyContext - [BasicSimianArmyContext.java:118] simianarmy.chaos.leashed = true
2018-10-24 21:16:19.823 INFO BasicSimianArmyContext - [BasicSimianArmyContext.java:118] simianarmy.calendar.openHour = 0
2018-10-24 21:16:19.823 INFO BasicSimianArmyContext - [BasicSimianArmyContext.java:118] simianarmy.chaos.notification.sourceEmail = jd.guzman10@uniandes.edu.co
2018-10-24 21:16:19.824 INFO BasicSimianArmyContext - [BasicSimianArmyContext.java:118] simianarmy.scheduler.frequencyUnit = HOURS
2018-10-24 21:16:19.824 INFO BasicSimianArmyContext - [BasicSimianArmyContext.java:118] simianarmy.chaos.networklatency.enabled = false
2018-10-24 21:16:19.825 INFO BasicSimianArmyContext - [BasicSimianArmyContext.java:118] simianarmy.chaos.notification.global.receiverEmail = jd.guzman10@uniandes.edu.co
2018-10-24 21:16:19.825 INFO BasicSimianArmyContext - [BasicSimianArmyContext.java:118] simianarmy.chaos.ASG.probability = 1.0
2018-10-24 21:16:19.826 INFO BasicSimianArmyContext - [BasicSimianArmyContext.java:118] simianarmy.chaos.detachvolumes.enabled = false
2018-10-24 21:16:19.826 INFO BasicSimianArmyContext - [BasicSimianArmyContext.java:118] simianarmy.chaos.enabled = true
2018-10-24 21:16:19.827 INFO BasicSimianArmyContext - [BasicSimianArmyContext.java:118] simianarmy.chaos.ASG.maxTerminationsPerDay = 1.0
2018-10-24 21:16:19.827 INFO BasicSimianArmyContext - [BasicSimianArmyContext.java:118] simianarmy.chaos.mandatoryTermination.enabled = false
2018-10-24 21:16:19.828 INFO BasicSimianArmyContext - [BasicSimianArmyContext.java:118] simianarmy.chaos.burncpu.enabled = false
2018-10-24 21:16:19.828 INFO BasicSimianArmyContext - [BasicSimianArmyContext.java:118] simianarmy.recorder.sdb.domain = SIMIAN ARMY
2018-10-24 21:16:19.829 INFO BasicSimianArmyContext - [BasicSimianArmyContext.java:118] simianarmy.chaos.killprocesses.enabled = false
2018-10-24 21:16:19.829 INFO BasicSimianArmyContext - [BasicSimianArmyContext.java:118] simianarmy.client.aws.accountName = default

jdguzmans@mac-de-usuario: ~/workspace/automated-testing-repo/automated-testing-workshop-11/SimianArmy
File Edit View Search Terminal Help
2018-10-24 21:16:46.741 INFO BasicSimianArmyContext - [BasicSimianArmyContext.java:118] simianarmy.recorder.sdb.domain = SIMIAN ARMY
2018-10-24 21:16:46.742 INFO BasicSimianArmyContext - [BasicSimianArmyContext.java:449] using standard class for simianarmy.calendar.class
2018-10-24 21:16:53.389 INFO BasicSimianArmyContext - [BasicSimianArmyContext.java:449] using standard class for simianarmy.client.recorder.class
2018-10-24 21:16:54.099 INFO BasicConformityMonkeyContext - [BasicConformityMonkeyContext.java:182] Conformity Monkey is running in: [us-west-2]
2018-10-24 21:16:54.103 INFO BasicConformityMonkeyContext - [BasicConformityMonkeyContext.java:141] Discovery/Eureka is not enabled, the conformity rules that need Eureka are not added.
2018-10-24 21:16:54.114 INFO MonkeyRunner - [MonkeyRunner.java:56] Starting CHAOS Monkey
2018-10-24 21:16:54.594 INFO MonkeyRunner - [MonkeyRunner.java:56] Starting VOLUME TAGGING Monkey
2018-10-24 21:16:54.594 INFO Monkey - [Monkey.java:142] Not Time for CHAOS Monkey
2018-10-24 21:16:54.830 INFO MonkeyRunner - [MonkeyRunner.java:56] Starting JANITOR Monkey
2018-10-24 21:16:54.834 INFO Monkey - [Monkey.java:132] VOLUME TAGGING Monkey Running ...
2018-10-24 21:16:54.835 INFO AWSClient - [AWSClient.java:650] Getting all EBS volumes in region us-west-2.
2018-10-24 21:16:55.166 INFO Monkey - [Monkey.java:142] Not Time for JANITOR Monkey
2018-10-24 21:16:55.166 INFO MonkeyRunner - [MonkeyRunner.java:56] Starting CONFORMITY Monkey
2018-10-24 21:16:55.512 INFO Monkey - [Monkey.java:132] CONFORMITY Monkey Running ...
2018-10-24 21:16:55.513 INFO AWSClient - [AWSClient.java:344] Getting all auto-scaling groups in region us-west-2.
2018-10-24 21:16:55.513 INFO AWSClient - [AWSClient.java:671] Got 1 EBS volumes in region us-west-2.
2018-10-24 21:16:56.058 INFO AWSClient - [AWSClient.java:671] Got 1 EBS volumes in region us-west-2.
2018-10-24 21:16:56.059 INFO VolumeTaggingMonkey - [VolumeTaggingMonkey.java:146] Trying to tag 1 volumes for Janitor Monkey meta data.
2018-10-24 21:16:56.059 INFO VolumeTaggingMonkey - [VolumeTaggingMonkey.java:265] Setting tag JANITOR META to 'instance=i-0bc899b0d9074d654;owner=;detachTime=' for volume vol-08d25f3141cebid
2018-10-24 21:16:56.060 INFO VolumeTaggingMonkey - [VolumeTaggingMonkey.java:270] Volume tagging monkey is leashed. No real change is made to the volume.
2018-10-24 21:16:56.060 INFO Monkey - [Monkey.java:138] Reporting what I did...
2018-10-24 21:16:56.597 INFO AWSClient - [AWSClient.java:365] Got 1 auto-scaling groups in region us-west-2.
2018-10-24 21:16:56.598 INFO AWSClient - [AWSClient.java:162] No owner email is found for cluster monkey-target in configuration simianarmy.conformity.cluster.monkey-target.ownerEmail or tag owner.
2018-10-24 21:16:56.599 INFO AWSClient - [AWSClient.java:463] Getting all EC2 instances in region us-west-2.
2018-10-24 21:16:57.380 INFO AWSClient - [AWSClient.java:480] Got 1 EC2 instances in region us-west-2.
2018-10-24 21:16:57.380 INFO SimpleDBConformityClusterTracker - [SimpleDBConformityClusterTracker.java:168] Query to retrieve clusters for regions us-west-2 is 'select * from 'SIMIAN ARMY' where cluster is not null and region in ('us-west-2')'
2018-10-24 21:16:58.134 INFO SimpleDBConformityClusterTracker - [SimpleDBConformityClusterTracker.java:180] Retrieved 0 clusters from SimpleDB in domain SIMIAN ARMY and regions us-west-2
2018-10-24 21:16:58.134 INFO BasicConformityMonkey - [BasicConformityMonkey.java:141] Performing conformity check for 1 crawled clusters.
2018-10-24 21:16:58.135 INFO ConformityRuleEngine - [ConformityRuleEngine.java:49] Running conformity rule InstanceInSecurityGroup on cluster monkey-target
2018-10-24 21:16:58.135 INFO AWSClient - [AWSClient.java:465] Getting EC2 instances for 1 ids in region us-west-2.
2018-10-24 21:16:59.302 INFO AWSClient - [AWSClient.java:480] Got 1 EC2 instances in region us-west-2.
2018-10-24 21:16:59.303 INFO InstanceInSecurityGroup - [InstanceInSecurityGroup.java:153] Instance i-0bc899b0d9074d654 is in VPC and is ignored.
2018-10-24 21:16:59.303 INFO ConformityRuleEngine - [ConformityRuleEngine.java:49] Running conformity rule InstanceTooOld on cluster monkey-target
2018-10-24 21:16:59.303 INFO AWSClient - [AWSClient.java:465] Getting EC2 instances for 1 ids in region us-west-2.
2018-10-24 21:17:00.390 INFO AWSClient - [AWSClient.java:480] Got 1 EC2 instances in region us-west-2.
2018-10-24 21:17:00.397 INFO ConformityRuleEngine - [ConformityRuleEngine.java:49] Running conformity rule SameZonesInElbAndAsg on cluster monkey-target
2018-10-24 21:17:00.397 INFO AWSClient - [AWSClient.java:346] Getting auto-scaling groups for 1 names in region us-west-2.
2018-10-24 21:17:01.476 INFO AWSClient - [AWSClient.java:365] Got 1 auto-scaling groups in region us-west-2.
2018-10-24 21:17:01.476 INFO AWSClient - [AWSClient.java:346] Getting auto-scaling groups for 1 names in region us-west-2.
2018-10-24 21:17:02.919 INFO AWSClient - [AWSClient.java:365] Got 1 auto-scaling groups in region us-west-2.
2018-10-24 21:17:02.919 INFO BasicConformityMonkey - [BasicConformityMonkey.java:156] Cluster monkey-target is conforming
2018-10-24 21:17:02.920 INFO BasicConformityMonkey - [BasicConformityMonkey.java:166] The conformity monkey is leashed, no data change is made for cluster monkey-target.
2018-10-24 21:17:02.920 INFO BasicConformityMonkey - [BasicConformityMonkey.java:174] Conformity monkey is leashed, no notification is sent.
2018-10-24 21:17:03.717 INFO AWSEmailNotifier - [AWSEmailNotifier.java:88] Email to jd.guzman10@uniandes.edu.co, result id is 01000166a902c710-7fd0fd0-bdc4-418e-acba-6202b498c8f1-0000, subject is Conformity monkey execution summary (us-west-2)
2018-10-24 21:17:03.718 INFO Monkey - [Monkey.java:138] Reporting what I did...

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

## Conformity monkey execution summary (us-west-2)



jd.guzman10@uniandes.edu.co

Hoy, 8:22 a.m.

Juan David Guzman Sarmiento



Responder a todos |

Total nonconforming clusters = 0 in region us-west-2

List:

Total failed to check clusters = 0 in region us-west-2

List:

Total nonexistent clusters = 0 in region us-west-2

List:

Total conforming clusters = 1 in region us-west-2

¿Obtiene demasiados correos electrónicos de jd.guzman10@uniandes.edu.co? [Puede cancelar la suscripción](#)