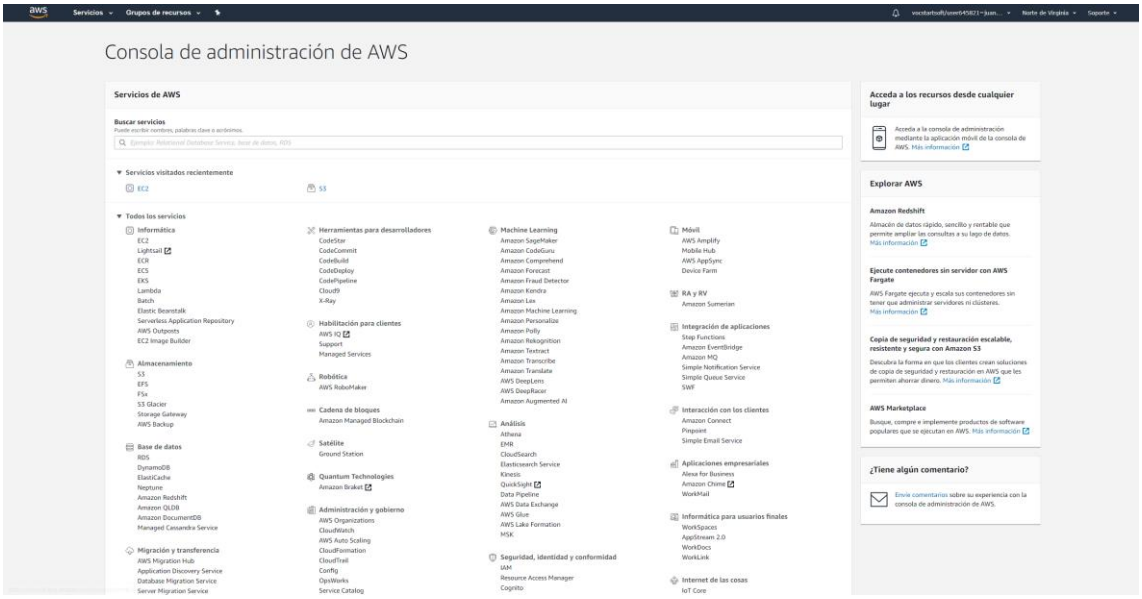
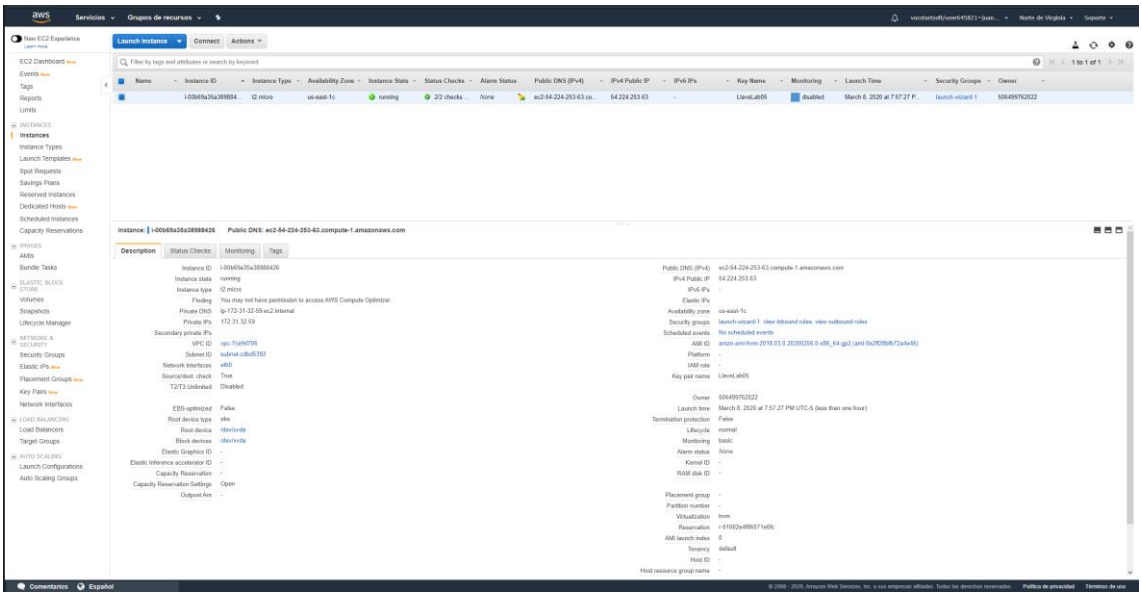
Taller de introducción a AWS y modularización por virtualización:

Realizado por: Juan Felipe Mora Quintero

1. Acceda a la consola de administración de AWS



2. Cree una máquina virtual linux siguiendo los pasos en:https://aws.amazon.com/es/getting-started/tutorials/launch-a-virtual-machine/



3. Conéctese a la máquina virtual usando ssh. Verifique que está en la máquina virtual introduciendo comandos simples como: whoami, ls, pwd.

```
ec2-user@ip-172-31-32-59:~

juan felipe mora@DESKTOP-JD9RFP4 MINGW64 ~/Desktop/Universidad/Semestre 9/AREP/L
ab05
$ ssh -i "LlaveLab05.pem" ec2-user@ec2-54-224-253-63.compute-1.amazonaws.com
The authenticity of host 'ec2-54-224-253-63.compute-1.amazonaws.com (54.224.253.
63)' can't be established.
ECDSA key fingerprint is SHA256:Joxxk2rmGpXqgujTuOyUNh6wiSh3OpnZ3m4bQ3cLJPY.
Are you sure you want to continue connecting (yes/no)? yes
Warning: Permanently added 'ec2-54-224-253-63.compute-1.amazonaws.com,54.224.253
.63' (ECDSA) to the list of known hosts.
Last login: Sun Mar  8 23:57:29 2020 from 181.61.209.13

       __|  __|_  )
       _|  (     /   Amazon Linux AMI
      ___|\___|___|

https://aws.amazon.com/amazon-linux-ami/2018.03-release-notes/
[ec2-user@ip-172-31-32-59 ~]$ whoami
ec2-user
[ec2-user@ip-172-31-32-59 ~]$ ls
[ec2-user@ip-172-31-32-59 ~]$ pwd
/home/ec2-user
[ec2-user@ip-172-31-32-59 ~]$ |
```

4. Verifique que java está instalado. Note que el compilador de java (javac) no está instalado en la máquina virtual.

```
ec2-user@ip-172-31-32-59:~

$ ssh -i "LlaveLab05.pem" ec2-user@ec2-54-224-253-63.compute-1.amazonaws.com
The authenticity of host 'ec2-54-224-253-63.compute-1.amazonaws.com (54.224.253.
63)' can't be established.
ECDSA key fingerprint is SHA256:Joxxk2rmGpXqgujTuOyUNh6wiSh3OpnZ3m4bQ3cLJPY.
Are you sure you want to continue connecting (yes/no)? yes
Warning: Permanently added 'ec2-54-224-253-63.compute-1.amazonaws.com,54.224.253
.63' (ECDSA) to the list of known hosts.
Last login: Sun Mar  8 23:57:29 2020 from 181.61.209.13

       __|  __|_  )
       _|  (     /   Amazon Linux AMI
      ___|\___|___|

https://aws.amazon.com/amazon-linux-ami/2018.03-release-notes/
[ec2-user@ip-172-31-32-59 ~]$ whoami
ec2-user
[ec2-user@ip-172-31-32-59 ~]$ ls
[ec2-user@ip-172-31-32-59 ~]$ pwd
/home/ec2-user
[ec2-user@ip-172-31-32-59 ~]$ java -version
openjdk version "1.8.0_242"
OpenJDK Runtime Environment (build 1.8.0_242-b08)
OpenJDK 64-Bit Server VM (build 25.242-b08, mixed mode)
[ec2-user@ip-172-31-32-59 ~]$ |
```

5. Salga del ssh usando "exit".

```
MINGW64:/c/Users/juan felipe mora/Desktop/Universidad/Semestre 9/AREP...
.63' (ECDSA) to the list of known hosts.
Last login: Sun Mar  8 23:57:29 2020 from 181.61.209.13

       __|  __|_  )
       _|  (     /   Amazon Linux AMI
      ___|\___|___|

https://aws.amazon.com/amazon-linux-ami/2018.03-release-notes/
[ec2-user@ip-172-31-32-59 ~]$ whoami
ec2-user
[ec2-user@ip-172-31-32-59 ~]$ ls
[ec2-user@ip-172-31-32-59 ~]$ pwd
/home/ec2-user
[ec2-user@ip-172-31-32-59 ~]$ java -version
openjdk version "1.8.0_242"
OpenJDK Runtime Environment (build 1.8.0_242-b08)
OpenJDK 64-Bit Server VM (build 25.242-b08, mixed mode)
[ec2-user@ip-172-31-32-59 ~]$ exit
logout
Connection to ec2-54-224-253-63.compute-1.amazonaws.com closed.

juan felipe mora@DESKTOP-JD9RFP4 MINGW64 ~/Desktop/Universidad/Semestre 9/AREP/L
ab05
$
```

6. En su **máquina local,** usando netbeans cree un cliente que se pueda conectar a una url e imprimir la respuesta de esa url en pantalla. Observe que el código de ejemplo recibe la url como el primer argumento en la línea de comandos.

```
public class Cliente {
    Run | Debug
    public static void main(String[] args) throws Exception {
        URL url = new URL(args[0]);
        try (BufferedReader reader = new BufferedReader(new InputStreamReader(url.openStream())))
        {
          String inputLine = null;
          while ((inputLine = reader.readLine()) != null) {
            System.out.println(inputLine);
          }

        } catch (IOException x) {
                System.err.println(x);
         }
        }

}
```

7. Pruebe su cliente en la máquina local con un comando similar al siguiente:

```
java URLReader http://www.google.com
```

```
estudiante@linux-46: ~/Documents/juanmora/lab05/AREP-LABORATORIO5/target/classes
File  Edit  View  Search  Terminal  Help
edu
estudiante@linux-46:~/Documents/juanmora/lab05/AREP-LABORATORIO5/target/classes$
 java edu.escuelaing.arep.app.cliente.Cliente https://www.google.com/
<!doctype html><html itemscope="" itemtype="http://schema.org/WebPage" lang="es-
419"><head><meta content="text/html; charset=UTF-8" http-equiv="Content-Type"><m
eta content="/images/branding/googleg/1x/googleg_standard_color_128dp.png" itemp
rop="image"><title>Google</title><script nonce="l5FynuN/CHlAVyEUhWfu2A==">(funct
ion(){window.google={kEI:'4RxQXt-UG9HM_AbpjpSoCw',kEXPI:'0,1353747,5662,730,224,
5105,206,2954,250,10,50,1001,175,364,926,239,270,4,60,690,52,75,383,140,736,389,
340,85,216,415288,712177,1197789,235,125,44,329074,1294,12383,4855,32692,15247,8
67,2237,26447,364,8824,8384,4858,1362,4323,4967,3021,4742,5,7,3111,7915,1808,197
6,2044,7220,1689,5297,2974,873,37,1180,2975,6430,11306,2883,21,318,1981,2535,277
8,520,399,2277,8,85,2711,1593,1279,390,1822,202,328,149,1103,840,517,1466,4,4,48
,820,3438,108,152,52,1137,2,2669,789,1050,184,1777,520,1946,748,429,44,1009,93,3
30,1282,16,84,417,2426,2246,474,1339,748,1039,3227,773,2072,7,1320,5059,1254,651
3,1831,831,170,472,2449,2459,1226,496,909,51,6,281,3653,1275,108,1246,200,1480,4
81,405,503,2,433,508,2614,694,719,719,265,2895,327,1842,355,226,690,305,828,842,
185,2,293,1426,1078,30,157,813,58,125,278,110,40,254,378,401,418,472,218,243,127
,1660,1,331,25,351,148,1780,76,1170,475,193,551,500,41,177,19,2,135,1,154,18,638
,61,27,152,135,594,123,127,699,151,242,209,391,596,362,899,1161,116,209,465,184,
326,18,80,1254,810,5842961,1805894,4194968,2801054,549,333,444,1,2,80,1,900,896,
1,8,1,2,2551,1,748,200,736,4,559,1,4265,1,1,1,1,137,1,879,9,305,641,5,16,80,3,1,
23963658,24',kBL:'Clag'};google.sn='webhp';google.kHL='es-419';})();(function(){
google.lc=[];google.li=0;google.getEI=function(a){for(var b;a&&(!a.getAttribute|
```

8. Suba el proyecto compilado a su máquina virtual usando sftp.

```
MINGW64:/c/Users/juan felipe mora/Desktop/Universidad/Semestre 9/AREP...
sftp> lls
'~$ller de introducción a AWS y modularización por virtualización.docx'
 AREP-LABORATORIO5
 LlaveLab05.pem
 Nico
'Screenshot from 2020-02-21 13-10-15.png'
'Taller de introducción a AWS y modularización por virtualización.docx'
sftp> lcd AREP-LABORATORIO5/
sftp> lls
LICENSE  pom.xml  Procfile  README.md  src  target
sftp> lcd target/
sftp> lls
apidocs            generated-test-sources                maven-archiver
classes            javadoc-bundle-options                maven-status
dependency         Laboratorio5-1.0-SNAPSHOT.jar         surefire-reports
generated-sources  Laboratorio5-1.0-SNAPSHOT-javadoc.jar test-classes
sftp> put L
Laboratorio5-1.0-SNAPSHOT-javadoc.jar   Laboratorio5-1.0-SNAPSHOT.jar

sftp> put Laboratorio5-1.0-SNAPSHOT.jar
Uploading Laboratorio5-1.0-SNAPSHOT.jar to /home/ec2-user/Laboratorio5-1.0-SNAPS
HOT.jar
Laboratorio5-1.0-SNAPSHOT.jar                 100%   18KB  98.2KB/s   00:00
sftp>
```

9. Ejecute el cliente que instaló en su máquina virtual de AWS para conectarse a la aplicación que instaló en Heroku durante el parcial o el taller.

```
[ec2-user@ip-172-31-32-59 ~]$ java -jar Laboratorio5-1.0-SNAPSHOT.jar 10
<!DOCTYPE html><html lang="en">  <head>    <meta charset="UTF-8">    <meta name=
"viewport" content="width=device-width, initial-scale=1.0">    <meta http-equiv=
"X-UA-Compatible" content="ie=edge">    <title>Index</title>    <script src="htt
ps://code.jquery.com/jquery-3.4.1.js"></script>  </head>  <body>    <center>
  <h1>Pagina inicial</h1>      <form>        Hola, bienvenido en la url ingresa
la imagen o contenido que estas buscando<br>      </form>    </center>  </body><
/html>
Tiempo de ejecucion :1.462291479
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"viewport" content="width=device-width, initial-scale=1.0">    <meta http-equiv=
"X-UA-Compatible" content="ie=edge">    <title>Index</title>    <script src="htt
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/html>
Tiempo de ejecucion :1.47311342
<!DOCTYPE html><html lang="en">  <head>    <meta charset="UTF-8">    <meta name=
"viewport" content="width=device-width, initial-scale=1.0">    <meta http-equiv=
"X-UA-Compatible" content="ie=edge">    <title>Index</title>    <script src="htt
ps://code.jquery.com/jquery-3.4.1.js"></script>  </head>  <body>    <center>
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/html>
Tiempo de ejecucion :1.474035492
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"viewport" content="width=device-width, initial-scale=1.0">    <meta http-equiv=
"X-UA-Compatible" content="ie=edge">    <title>Index</title>    <script src="htt
ps://code.jquery.com/jquery-3.4.1.js"></script>  </head>  <body>    <center>
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```

```
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/html>
Tiempo de ejecucion :1.475349749
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"viewport" content="width=device-width, initial-scale=1.0">    <meta http-equiv=
"X-UA-Compatible" content="ie=edge">    <title>Index</title>    <script src="htt
ps://code.jquery.com/jquery-3.4.1.js"></script>  </head>  <body>    <center>
  <h1>Pagina inicial</h1>      <form>        Hola, bienvenido en la url ingresa
la imagen o contenido que estas buscando<br>      </form>    </center>  </body><
/html>
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"viewport" content="width=device-width, initial-scale=1.0">    <meta http-equiv=
"X-UA-Compatible" content="ie=edge">    <title>Index</title>    <script src="htt
ps://code.jquery.com/jquery-3.4.1.js"></script>  </head>  <body>    <center>
  <h1>Pagina inicial</h1>      <form>        Hola, bienvenido en la url ingresa
la imagen o contenido que estas buscando<br>      </form>    </center>  </body><
/html>
Tiempo de ejecucion :1.476869103
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"viewport" content="width=device-width, initial-scale=1.0">    <meta http-equiv=
"X-UA-Compatible" content="ie=edge">    <title>Index</title>    <script src="htt
ps://code.jquery.com/jquery-3.4.1.js"></script>  </head>  <body>    <center>
  <h1>Pagina inicial</h1>      <form>        Hola, bienvenido en la url ingresa
la imagen o contenido que estas buscando<br>      </form>    </center>  </body><
/html>
Tiempo de ejecucion :1.47758602
Tiempo de ejecucion :1.478929452
Tiempo de ejecucion :1.479244765
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"viewport" content="width=device-width, initial-scale=1.0">    <meta http-equiv=
"X-UA-Compatible" content="ie=edge">    <title>Index</title>    <script src="htt
ps://code.jquery.com/jquery-3.4.1.js"></script>  </head>  <body>    <center>
  <h1>Pagina inicial</h1>      <form>        Hola, bienvenido en la url ingresa
la imagen o contenido que estas buscando<br>      </form>    </center>  </body><
/html>
Tiempo de ejecucion :1.490315155
```

10. Borre las instancias y unidades de almacenamiento en su cuenta AWS para no generar costos.

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Load Balancers
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AUTO SCALING
Launch Configurations
Auto Scaling Groups

Launch Instance | Connect | Actions

Filter by tags and attributes or search by keyword — 1 to 1 of 1

Name	Instance ID	Instance Type	Availability Zone	Instance State	Status Checks	Alarm Status	Public D
	i-00b69a35a389884...	t2.micro	us-east-1c	stopped		None	

Instance: i-00b69a35a38988426 Private IP: 172.31.32.59

Description | Status Checks | Monitoring | Tags

Instance ID	i-00b69a35a38988426	Public DNS (IPv4)	-
Instance state	stopped	IPv4 Public IP	-
Instance type	t2.micro	IPv6 IPs	-
Finding	You may not have permission to access AWS Compute Optimizer.	Elastic IPs	
Private DNS	ip-172-31-32-59.ec2.internal	Availability zone	us-east-1c
Private IPs	172.31.32.59	Security groups	launch-wizard-1. view inbound rules. view outbound rules
Secondary private IPs		Scheduled events	-
VPC ID	vpc-7ce9d706	AMI ID	amzn-ami-hvm-2018.03.0.20200206.0-x86_64-gp2 (ami-0e2ff28bfb72a4e45)
Subnet ID	subnet-cdbd5392	Platform	-
Network interfaces	eth0	IAM role	-
Source/dest. check	True	Key pair name	LlaveLab05
T2/T3 Unlimited	Disabled		
		Owner	506499762022
EBS-optimized	False	Launch time	March 9, 2020 at 9:55:01 PM UTC-5 (less than one hour)
Root device type	ebs	Termination protection	False
Root device	/dev/xvda	Lifecycle	normal
Block devices	/dev/xvda	Monitoring	basic
Elastic Graphics ID	-	Alarm status	None
Elastic Inference accelerator ID	-	Kernel ID	-
Capacity Reservation	-	RAM disk ID	-