

TECNOLÓGICO NACIONAL DE MÉXICO

INSTITUTO TECNOLÓGICO DE CHIHUAHUA II



DEPARTAMENTO DE SISTEMAS Y COMPUTACIÓN INGENIERÍA EN SISTEMAS COMPUTACIONALES SEGURIDAD PERIMETRAL

DOCENTE: HECTOR EDUARDO RAMOS COVARRUBIAS

DOCUMENTACIÓN DEL SERVIDOR EN AWS

EQUIPO “LOS MAZAPANES”

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Chihuahua, Chihuahua, a 9 de febrero de 2020

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Introducción

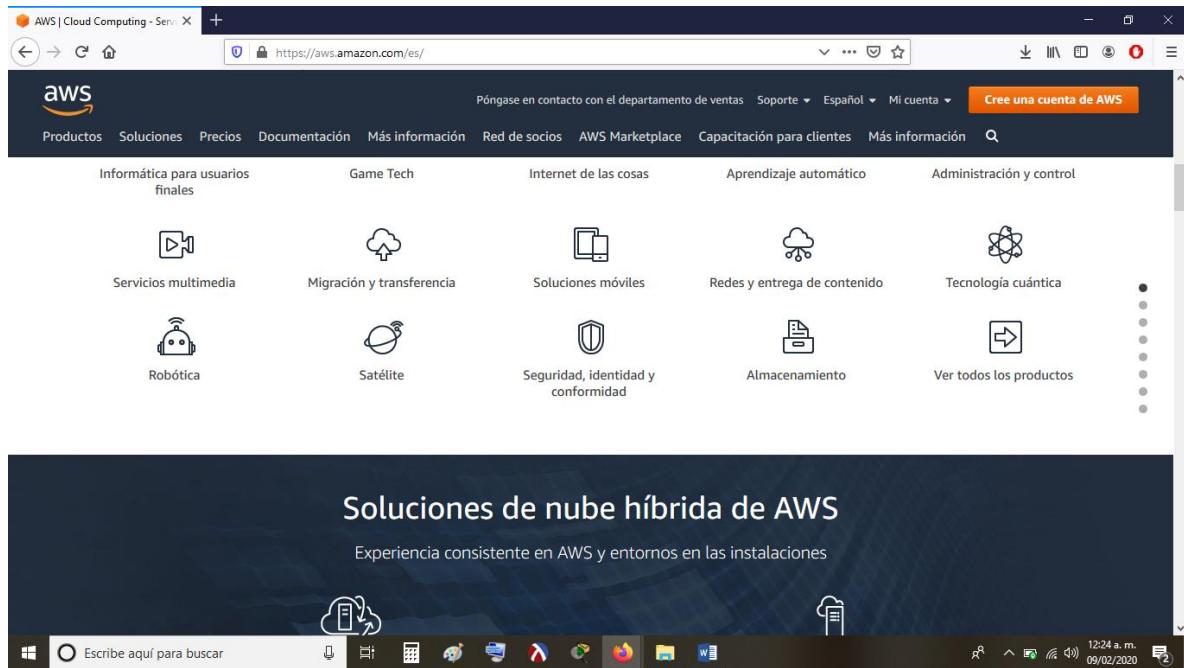
Amazon Web Services (AWS abreviado) es una colección de servicios de computación en la nube pública (también llamados servicios web) que en conjunto forman una plataforma de computación en la nube, ofrecidas a través de Internet por Amazon.com. Es usado en aplicaciones populares como Dropbox, Foursquare, HootSuite. Es una de las ofertas internacionales más importantes de la computación en la nube y compite directamente contra servicios como Microsoft Azure y Google Cloud Platform. Es considerado como un pionero en este campo.

En el siguiente documento se mostrara los pasos para crear una máquina virtual que dará servicio para una página web, así como también se mostrara como modificar dicha página.

Documentación

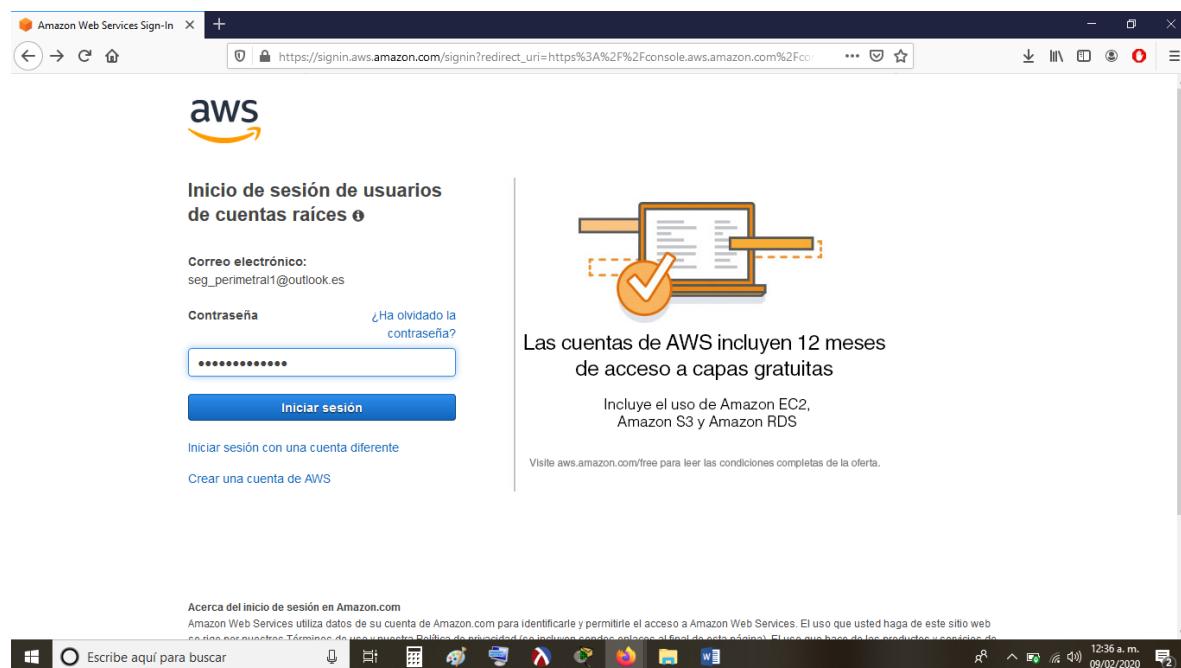
Creación de máquina virtual

1. Accedemos a la siguiente página <https://aws.amazon.com/es/>.

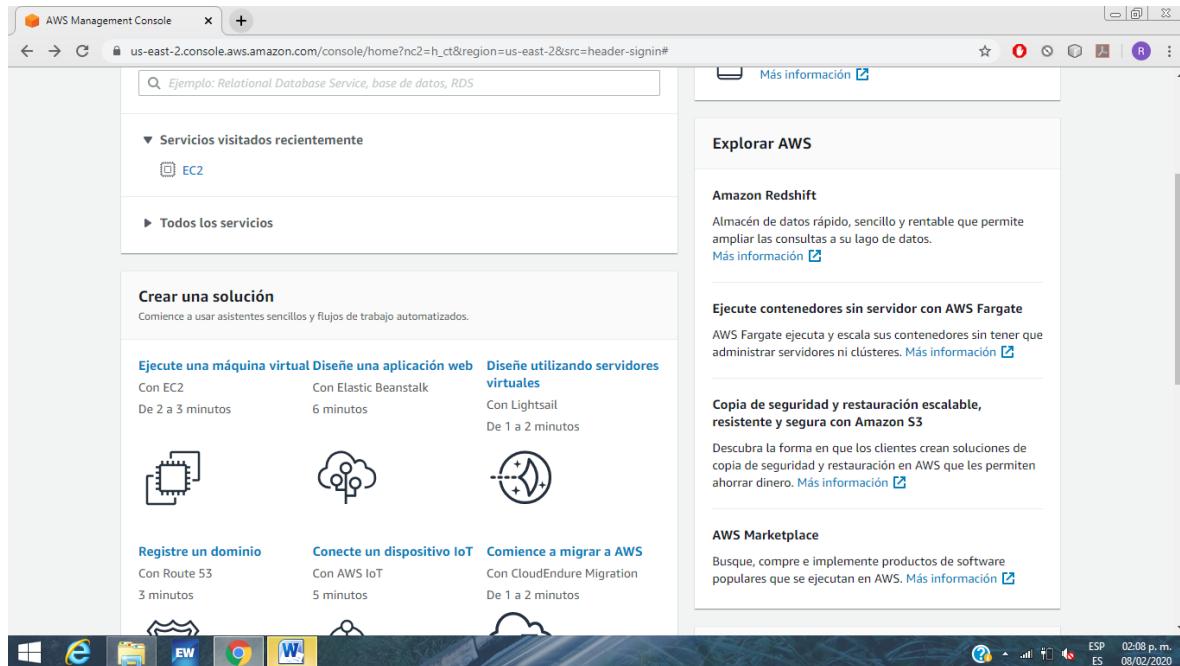


2. Accedemos con el correo proporcionado por el docente:

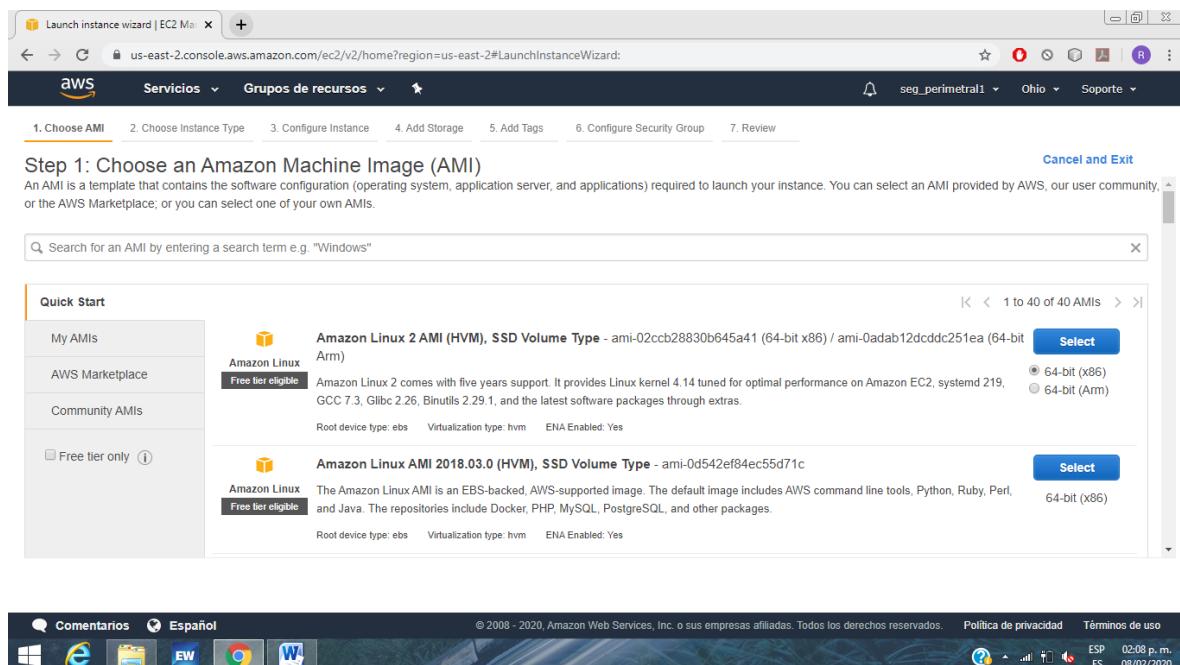
Seg_perimetral1@outlook.es



3. Al ingresar nos debe de aparecer la siguiente pantalla. Damos clic en la opción “Ejecute una máquina virtual”.



4. Seleccionamos una máquina virtual gratuita.



5. Elegimos un tipo de instancia.

The screenshot shows the AWS Launch Instance Wizard at Step 2: Choose an Instance Type. The user has selected the 'All instance types' filter and is viewing the 'Current generation' section. The table lists various instance types under the 'General purpose' family. The **t2.micro** row is highlighted, showing it has 1 vCPU, 1 GiB of memory, and 1 GB of instance storage, and is currently in the 'Free tier eligible' period. Other options like t2.nano, t2.small, t2.medium, and t2.large are also listed. At the bottom right, there are buttons for 'Cancel', 'Previous', 'Review and Launch', and 'Next: Configure Instance Details'.

6. Vemos las características de la instancia.

The screenshot shows the AWS Launch Instance Wizard at Step 7: Review Instance Launch. The user has reviewed the instance launch details, including the AMI (Amazon Linux 2 AMI (HVM, SSD Volume Type - ami-02ccb28830b645a41)), instance type (t2.micro), and security group (launch-wizard-6). The 'Launch' button is visible at the bottom right. The status bar at the bottom indicates the session is in Spanish (Español) and the date is 08/02/2020.

7. Vemos el estado de lanzamiento.

Your instances are now launching
The following instance launches have been initiated: i-05672eda1818048fb [View launch log](#)

Get notified of estimated charges
Create billing alerts to get an email notification when estimated charges on your AWS bill exceed an amount you define (for example, if you exceed the free usage tier).

How to connect to your instances

Your instances are launching, and it may take a few minutes until they are in the **running** state, when they will be ready for you to use. Usage hours on your new instances will start immediately and continue to accrue until you stop or terminate your instances.

Click [View Instances](#) to monitor your instances' status. Once your instances are in the **running** state, you can **connect** to them from the Instances screen. [Find out](#) how to connect to your instances.

Here are some helpful resources to get you started

- How to connect to your Linux instance
- Learn about AWS Free Usage Tier
- Amazon EC2: User Guide
- Amazon EC2: Discussion Forum

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Your instances are now launching and it may take a few minutes until they are in the **running** state, when they will be ready for you to use. Usage hours on your new instances will start immediately and continue to accrue until you stop or terminate your instances.

Click [View Instances](#) to monitor your instances' status. Once your instances are in the **running** state, you can **connect** to them from the Instances screen. [Find out](#) how to connect to your instances.

Here are some helpful resources to get you started

- How to connect to your Linux instance
- Learn about AWS Free Usage Tier
- Amazon EC2: User Guide
- Amazon EC2: Discussion Forum

While your instances are launching you can also

- Create status check alarms to be notified when these instances fail status checks. (Additional charges may apply)
- Create and attach additional EBS volumes (Additional charges may apply)
- Manage security groups

[View Instances](#)

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8. Seleccionamos el servicio en “Networking” y “Change Security Groups”.

The screenshot shows the AWS EC2 Management Console. On the left, there's a sidebar with navigation links like 'New EC2 Experience', 'Capacity Reservations', 'AMIs', 'Elastic Block Store', 'Network & Security' (which is expanded), and 'Security Groups'. In the main area, a table lists several EC2 instances. A context menu is open over one of the instances, with 'Networking' selected. Under 'Networking', the 'Change Security Groups' option is highlighted. The status bar at the bottom right shows the date and time as '08/02/2020 02:12 p.m.'.

9. Seleccionamos HTTP y habilitamos el puerto.

The screenshot shows the 'Change Security Groups' dialog box. It displays the 'Instance ID' as 'i-05672eda181804fb' and the 'Interface ID' as 'eni-01bec9726aa05d43'. Below this, a table lists security groups with their IDs and names. The 'Http' group, which has a description of 'Habilitar puerto 80', is checked. At the bottom right of the dialog box, there are 'Cancel' and 'Assign Security Groups' buttons. The background shows the same EC2 management interface as the previous screenshot.

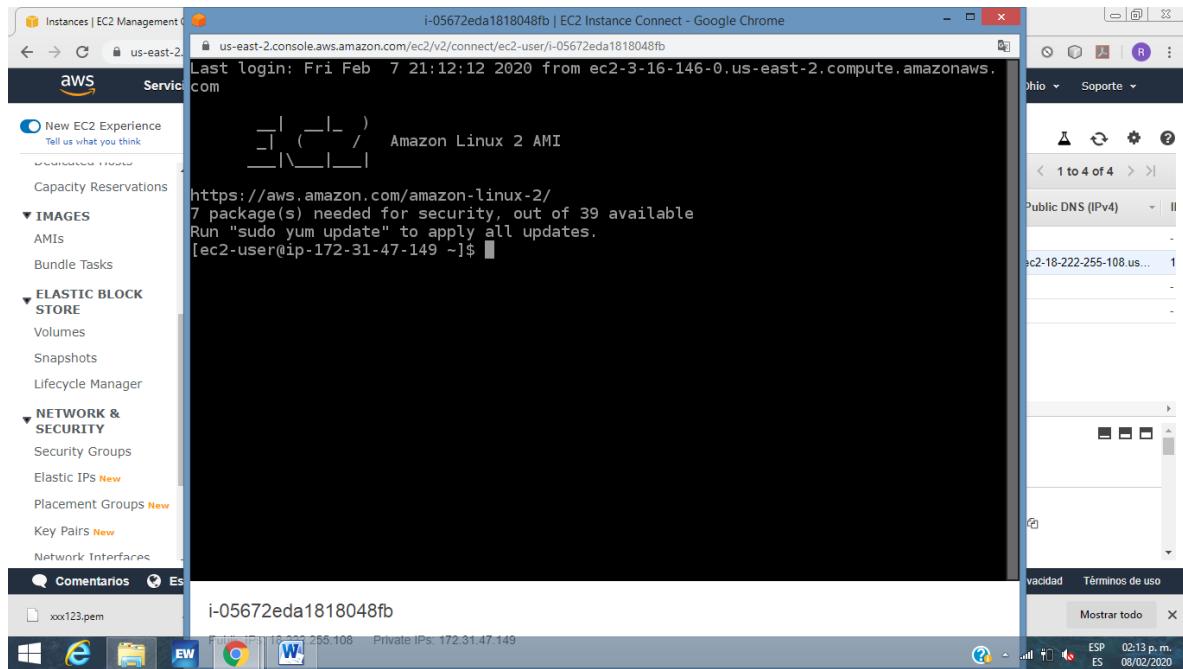
10. Verificamos que este corriendo la instancia.

The screenshot shows the AWS EC2 Management Console. In the left sidebar, under 'Instances', there is a table of instances. One instance is highlighted in blue: 'i-05672eda1818048fb' (t2.micro, us-east-2c, running). A modal window is open for this instance, displaying its details: Instance ID (i-05672eda1818048fb), Public DNS (ec2-18-222-255-108.us-east-2.compute.amazonaws.com), Instance state (running), and IPv4 Public IP (18.222.255.108).

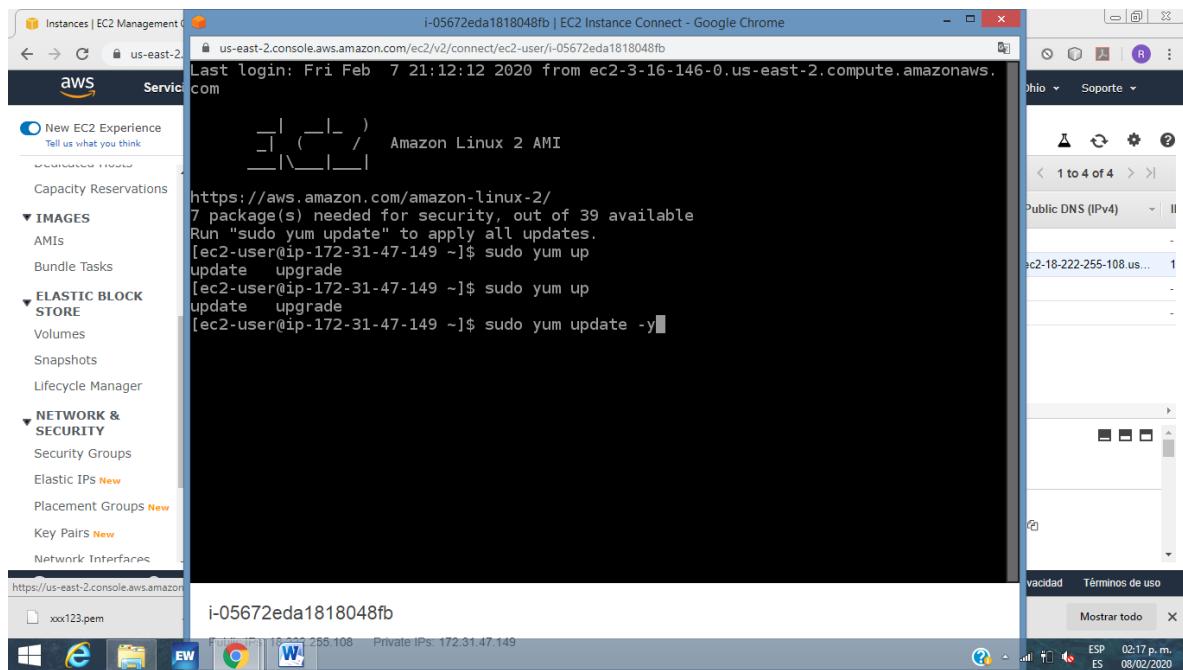
11. Conectamos la instancia.

The screenshot shows the same AWS EC2 Management Console interface. A modal dialog box titled 'Connect to your instance' is overlaid on the main window. It asks for a 'Connection method': 'A standalone SSH client' (radio button), 'Session Manager' (radio button), or 'EC2 Instance Connect (browser-based SSH connection)' (radio button, which is selected). Below this, there is a 'User name' input field containing 'ec2-user'. At the bottom of the dialog are 'Close' and 'Connect' buttons. The background table of instances remains visible.

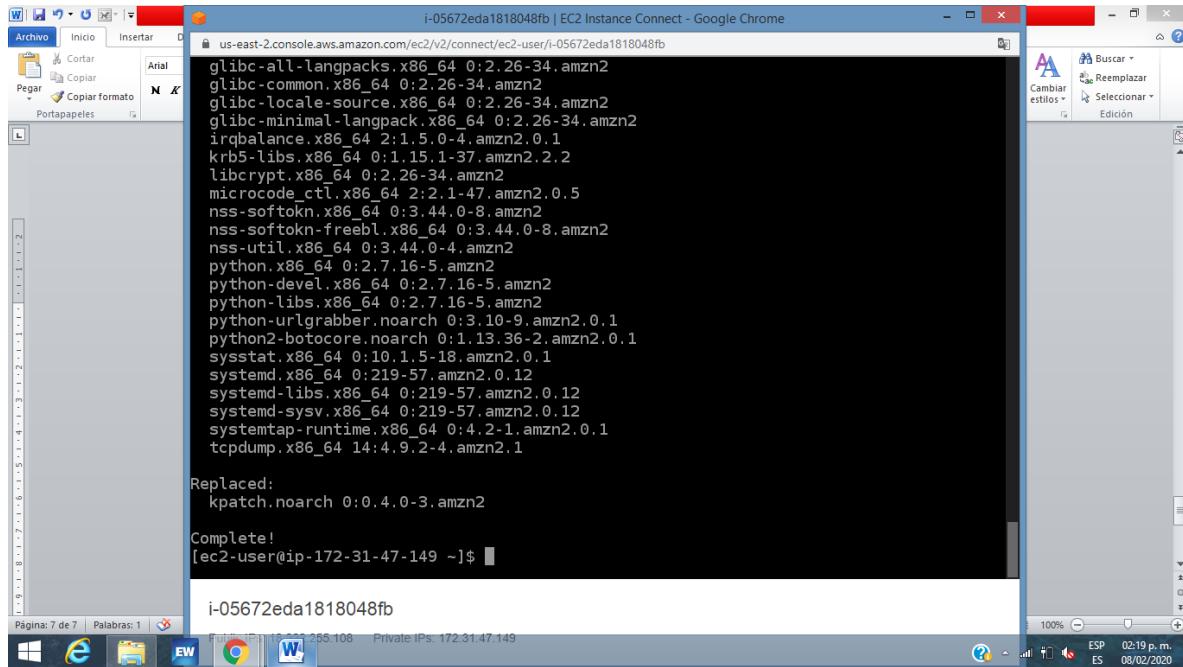
12. En otra ventana se abre la consola.



13. Ingresamos los siguientes comandos.



14. Esperamos que se descarguen los paquetes.



```
i-05672eda1818048fb | EC2 Instance Connect - Google Chrome
us-east-2.console.aws.amazon.com/ec2/v2/connect/ec2-user/i-05672eda1818048fb

glibc-all-langpacks.x86_64 0:2.26-34.amzn2
glibc-common.x86_64 0:2.26-34.amzn2
glibc-locale-source.x86_64 0:2.26-34.amzn2
glibc-minimal-langpack.x86_64 0:2.26-34.amzn2
irqbalance.x86_64 2:1.5.0-4.amzn2.0.1
krb5-libs.x86_64 0:1.15.1-37.amzn2.2.2
libcrypt.x86_64 0:2.26-34.amzn2
microcode_ctl.x86_64 2:2.1-47.amzn2.0.5
nss-softokn.x86_64 0:3.44.0-8.amzn2
nss-softokn-freebl.x86_64 0:3.44.0-8.amzn2
nss-util.x86_64 0:3.44.0-4.amzn2
python.x86_64 0:2.7.16-5.amzn2
python-devel.x86_64 0:2.7.16-5.amzn2
python-libs.x86_64 0:2.7.16-5.amzn2
python-urllib3.noarch 0:3.10-9.amzn2.0.1
python2-botocore.noarch 0:1.13.36-2.amzn2.0.1
sysstat.x86_64 0:10.1.5-18.amzn2.0.1
systemd.x86_64 0:219-57.amzn2.0.12
systemd-libs.x86_64 0:219-57.amzn2.0.12
systemd-sysv.x86_64 0:219-57.amzn2.0.12
systemtap-runtime.x86_64 0:4.2-1.amzn2.0.1
tcpdump.x86_64 14:4.9.2-4.amzn2.1

Replaced:
  kpatch.noarch 0:0.4.0-3.amzn2

Complete!
[ec2-user@ip-172-31-47-149 ~]$ ■

i-05672eda1818048fb
```

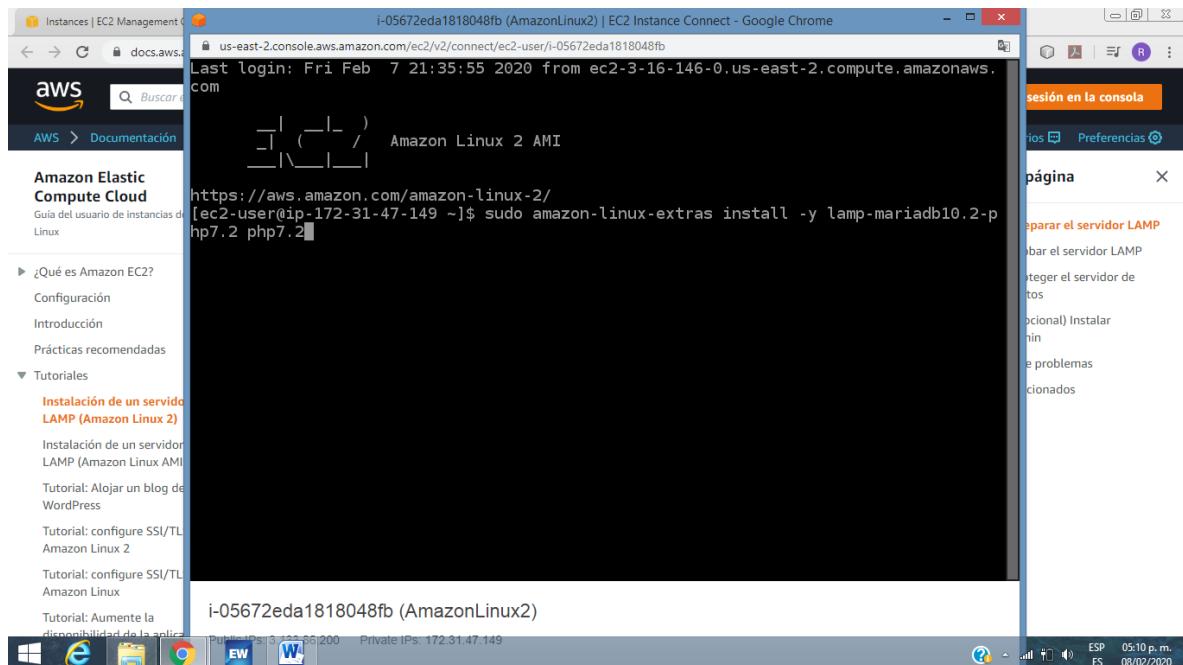
Página: 7 de 7 | Palabras: 1

https://aws.amazon.com/265.108 Private IPs: 172.31.47.149

Windows E W Google Chrome W

ESP 02:19 p. m. ES 08/02/2020

15. Ingresamos el siguiente comando para instalar lo necesario de la página web.



```
i-05672eda1818048fb | EC2 Instance Connect - Google Chrome
us-east-2.console.aws.amazon.com/ec2/v2/connect/ec2-user/i-05672eda1818048fb

Last login: Fri Feb 7 21:35:55 2020 from ec2-3-16-146-0.us-east-2.compute.amazonaws.com

Amazon Linux 2 AMI

https://aws.amazon.com/amazon-linux-2/
[ec2-user@ip-172-31-47-149 ~]$ sudo amazon-linux-extras install -y lamp-mariadb10.2-p
hp7.2 php7.2■

i-05672eda1818048fb (AmazonLinux2)
```

Instances | EC2 Management Console

AWS > Documentación

Amazon Elastic Compute Cloud

Guía del usuario de instancias de Amazon Linux

¿Qué es Amazon EC2?

Configuración

Introducción

Prácticas recomendadas

Tutoriales

Instalación de un servidor LAMP (Amazon Linux 2)

Instalación de un servidor LAMP (Amazon Linux AMI)

Tutorial: Alojar un blog de WordPress

Tutorial: configure SSL/TLS en Amazon Linux 2

Tutorial: configure SSL/TLS en Amazon Linux

Tutorial: Aumente la disponibilidad de la aplicación

https://aws.amazon.com/265.108 Private IPs: 172.31.47.149

Windows E W Google Chrome W

ESP 05:10 p. m. ES 08/02/2020

16. Esperamos que se instalen los paquetes.

The terminal window shows a list of available packages:

```
[=1.3.29  =1.3.32]
23 tomcat8.5      available  \
[=8.5.31  =8.5.32  =8.5.38  =8.5.40  =8.5.42  =8.5.50 ]
24 epel           available  [=7.11 ]
25 testing         available  [=1.0 ]
26 ecs            available  [=stable ]
27 corretto8       available  \
[=1.8.0_192  =1.8.0_202  =1.8.0_212  =1.8.0_222  =1.8.0_232
 =1.8.0_242 ]
28 firecracker     available  [=0.11 ]
29 golang1.11     available  \
[=1.11.3  =1.11.11  =1.11.13 ]
30 squid4          available  [=4 ]
- php7.3          available  \
[=7.3.2  =7.3.3  =7.3.4  =7.3.6  =7.3.8  =7.3.9  =7.3.10
 =7.3.11 ]
32 lustre2.10      available  \
[=2.10.5  =2.10.8 ]
33 java-openjdk11   available  [=11 ]
34 lynis           available  [=stable ]
35 kernel-ng        available  [=stable ]
36 BCC             available  [=0.x ]
37 mono            available  [=5.x ]
38 nginx1          available  [=stable ]
39 ruby2.6          available  [=2.6 ]
40 mock             available  [=stable ]
41 postgresql11     available  [=11 ]
[ec2-user@ip-172-31-47-149 ~]$
```

The browser window shows the AWS Documentation for AmazonLinux2, specifically the LAMP tutorial.

17. Ingresamos el comando que esta subrayado en azul para instalar mariadb.

The terminal window shows a list of available packages, with the command `sudo yum install -y httpd mariadb-server` highlighted in blue:

```
30 squid4          available  [=4 ]
- php7.3          available  \
[=7.3.2  =7.3.3  =7.3.4  =7.3.6  =7.3.8  =7.3.9  =7.3.10
 =7.3.11 ]
32 lustre2.10      available  \
[=2.10.5  =2.10.8 ]
33 java-openjdk11   available  [=11 ]
34 lynis           available  [=stable ]
35 kernel-ng        available  [=stable ]
36 BCC             available  [=0.x ]
37 mono            available  [=5.x ]
38 nginx1          available  [=stable ]
39 ruby2.6          available  [=2.6 ]
40 mock             available  [=stable ]
41 postgresql11     available  [=11 ]
[ec2-user@ip-172-31-47-149 ~]$ sudo yum install -y httpd mariadb-server
Loaded plugins: extras_suggestions, langpacks, priorities, update-motd
Package httpd-2.4.41-1.amzn2.0.1.x86_64 already installed and latest version
Resolving Dependencies
--> Running transaction check
--> Package mariadb-server.x86_64 3:10.2.10-2.amzn2.0.3 will be installed
--> Processing Dependency: mariadb-tokudb-engine(x86-64) = 3:10.2.10-2.amzn2.0.3 for package: 3:mariadb-server-10.2.10-2.amzn2.0.3.x86_64
--> Processing Dependency: mariadb-server-utils(x86-64) = 3:10.2.10-2.amzn2.0.3 for package: 3:mariadb-server-10.2.10-2.amzn2.0.3.x86_64
--> Processing Dependency: mariadb-rocksdb-engine(x86-64) = 3:10.2.10-2.amzn2.0.3 for package: 3:mariadb-server-10.2.10-2.amzn2.0.3.x86_64
--> Processing Dependency: mariadb-gssapi-server(x86-64) = 3:10.2.10-2.amzn2.0.3 for package: 3:mariadb-server-10.2.10-2.amzn2.0.3.x86_64
```

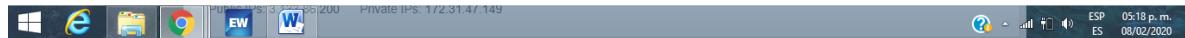
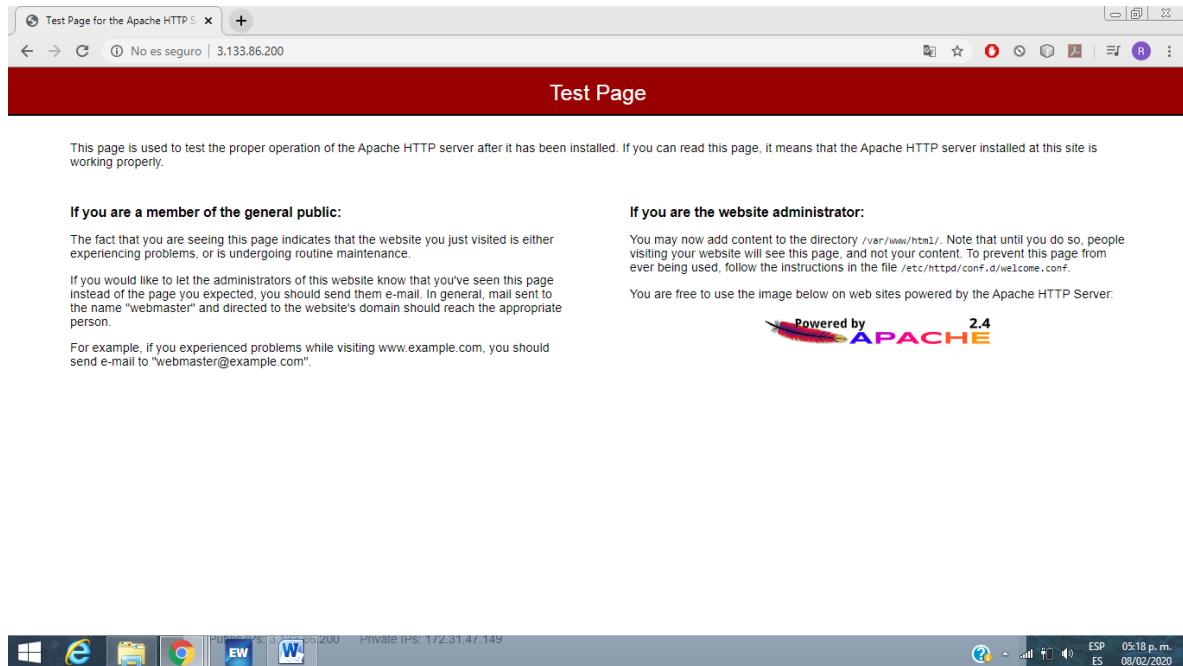
The browser window shows the AWS Documentation for AmazonLinux2, specifically the LAMP tutorial.

18. Esperamos que se instalen los paquetes.

```
i-05672eda1818048fb (AmazonLinux2) | EC2 Instance Connect - Google Chrome  
us-east-2.console.aws.amazon.com/ec2/v2/connect/ec2-user/i-05672eda1818048fb  
Verifying : 3:mariadb-server-10.2.10-2.amzn2.0.3.x86_64  
19/19  
Installed:  
mariadb-server.x86_64 3:10.2.10-2.amzn2.0.3  
Dependency Installed:  
bison.x86_64 0:3.0.4-6.amzn2.0.2  
jemalloc.x86_64 0:3.6.0-1.amzn2.0.1  
m4.x86_64 0:1.4.16-10.amzn2.0.2  
mariadb-backup.x86_64 3:10.2.10-2.amzn2.0.3  
mariadb-cracklib-password-check.x86_64 3:10.2.10-2.amzn2.0.3  
mariadb-errmsg.x86_64 3:10.2.10-2.amzn2.0.3  
mariadb-gssapi-server.x86_64 3:10.2.10-2.amzn2.0.3  
mariadb-rocksdb-engine.x86_64 3:10.2.10-2.amzn2.0.3  
mariadb-server-utils.x86_64 3:10.2.10-2.amzn2.0.3  
mariadb-tokudb-engine.x86_64 3:10.2.10-2.amzn2.0.3  
perl-Compress-Raw-Bzip2.x86_64 0:2.061-3.amzn2.0.2  
perl-Compress-Raw-Zlib.x86_64 1:2.061-4.amzn2.0.2  
perl-DBD-MySQL.x86_64 0:4.023-6.amzn2  
perl-DBI.x86_64 0:1.627-4.amzn2.0.2  
perl-Data-Dumper.x86_64 0:2.145-3.amzn2.0.2  
perl-IO-Compress.noarch 0:2.061-2.amzn2  
perl-Net-Daemon.noarch 0:0.48-5.amzn2  
perl-PlRPC.noarch 0:0.2020-14.amzn2  
Complete!  
[ec2-user@ip-172-31-47-149 ~]$ sudo systemctl start httpd  
[ec2-user@ip-172-31-47-149 ~]$  
i-05672eda1818048fb (AmazonLinux2)  
https://ip-172-31-47-149:200 Private IPs: 172.31.47.149  
Windows E W Google Chrome
```

```
i-05672eda1818048fb (AmazonLinux2) | EC2 Instance Connect - Google Chrome  
us-east-2.console.aws.amazon.com/ec2/v2/connect/ec2-user/i-05672eda1818048fb  
mariadb-server.x86_64 3:10.2.10-2.amzn2.0.3  
Dependency Installed:  
bison.x86_64 0:3.0.4-6.amzn2.0.2  
jemalloc.x86_64 0:3.6.0-1.amzn2.0.1  
m4.x86_64 0:1.4.16-10.amzn2.0.2  
mariadb-backup.x86_64 3:10.2.10-2.amzn2.0.3  
mariadb-cracklib-password-check.x86_64 3:10.2.10-2.amzn2.0.3  
mariadb-errmsg.x86_64 3:10.2.10-2.amzn2.0.3  
mariadb-gssapi-server.x86_64 3:10.2.10-2.amzn2.0.3  
mariadb-rocksdb-engine.x86_64 3:10.2.10-2.amzn2.0.3  
mariadb-server-utils.x86_64 3:10.2.10-2.amzn2.0.3  
mariadb-tokudb-engine.x86_64 3:10.2.10-2.amzn2.0.3  
perl-Compress-Raw-Bzip2.x86_64 0:2.061-3.amzn2.0.2  
perl-Compress-Raw-Zlib.x86_64 1:2.061-4.amzn2.0.2  
perl-DBD-MySQL.x86_64 0:4.023-6.amzn2  
perl-DBI.x86_64 0:1.627-4.amzn2.0.2  
perl-Data-Dumper.x86_64 0:2.145-3.amzn2.0.2  
perl-IO-Compress.noarch 0:2.061-2.amzn2  
perl-Net-Daemon.noarch 0:0.48-5.amzn2  
perl-PlRPC.noarch 0:0.2020-14.amzn2  
Complete!  
[ec2-user@ip-172-31-47-149 ~]$ sudo systemctl start httpd  
[ec2-user@ip-172-31-47-149 ~]$ sudo systemctl enable httpd  
Created symlink from /etc/systemd/system/multi-user.target.wants/httpd.service to /usr/lib/systemd/system/httpd.service.  
[ec2-user@ip-172-31-47-149 ~]$  
i-05672eda1818048fb (AmazonLinux2)  
https://ip-172-31-47-149:200 Private IPs: 172.31.47.149  
Windows E W Google Chrome
```

19. Una vez terminado debe de salir la siguiente pantalla como nuestra página principal.



Modificar página principal.

1. Accedemos a la consola e ingresamos el siguiente comando para abrir la página principal.

A screenshot of a terminal window titled "i-05672eda1818048fb (AmazonLinux2) | EC2 Instance Connect - Google Chrome". The window shows the command history: "Last login: Sat Feb 8 01:29:27 2020 from ec2-3-16-146-0.us-east-2.compute.amazonaws.com", followed by "https://aws.amazon.com/amazon-linux-2/", "[ec2-user@ip-172-31-47-149 ~]\$ sudo su", "[root@ip-172-31-47-149 ec2-user]# cd /var/www/html", and "[root@ip-172-31-47-149 html]# nano index.html".

i-05672eda1818048fb (AmazonLinux2)

Public IPs: 18.219.34.153 Private IPs: 172.31.47.149



2. Modificamos el contenido de la página y guardamos los cambios.

i-05672eda1818048fb (AmazonLinux2) | EC2 Instance Connect - Google Chrome
us-east-2.console.aws.amazon.com/ec2/v2/connect/ec2-user/i-05672eda1818048fb

GNU nano 2.9.8 index.html

```
<html>
<body>
<h2>Hola mundo<h2>
</body>
</html>
```

[Read 5 lines]

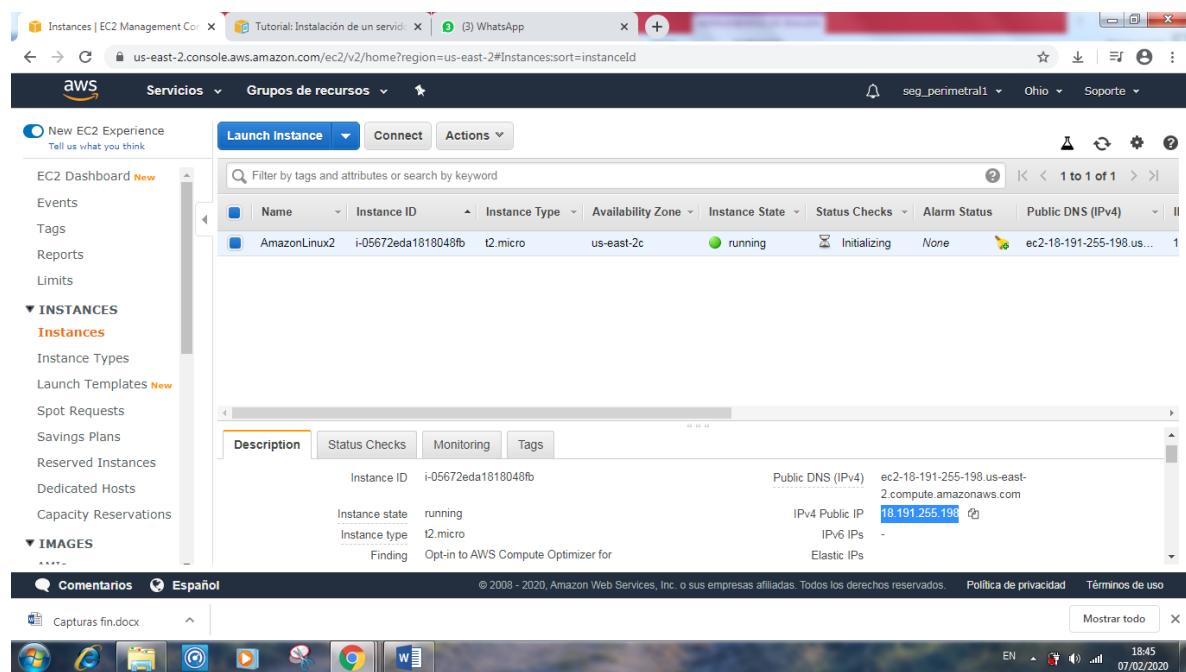
^G Get Help ^O Write Out ^W Where Is ^K Cut Text ^J Justify ^C Cur Pos M-U Undo ^A Mark Text
^X Exit ^R Read File ^Y Replace ^U Uncut Text ^T To Spell ^G Go To Line M-E Redo ^M-C Copy Text

i-05672eda1818048fb (AmazonLinux2)
Public IPs: 18.219.34.153 Private IPs: 172.31.47.149



EN 18:32 07/02/2020

3. Verificamos que el servidor este corriendo.



4. Ingresamos a nuestra página para ver los cambios.

