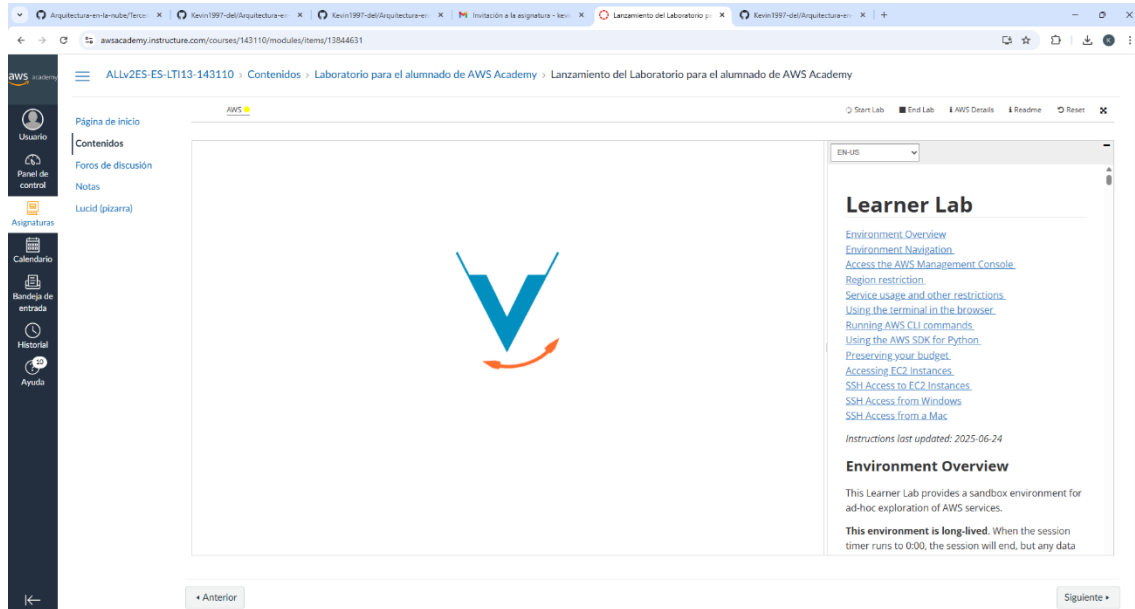


Kevin Hernández Catalán

Cómo crear una instancia Ubuntu en AWS:

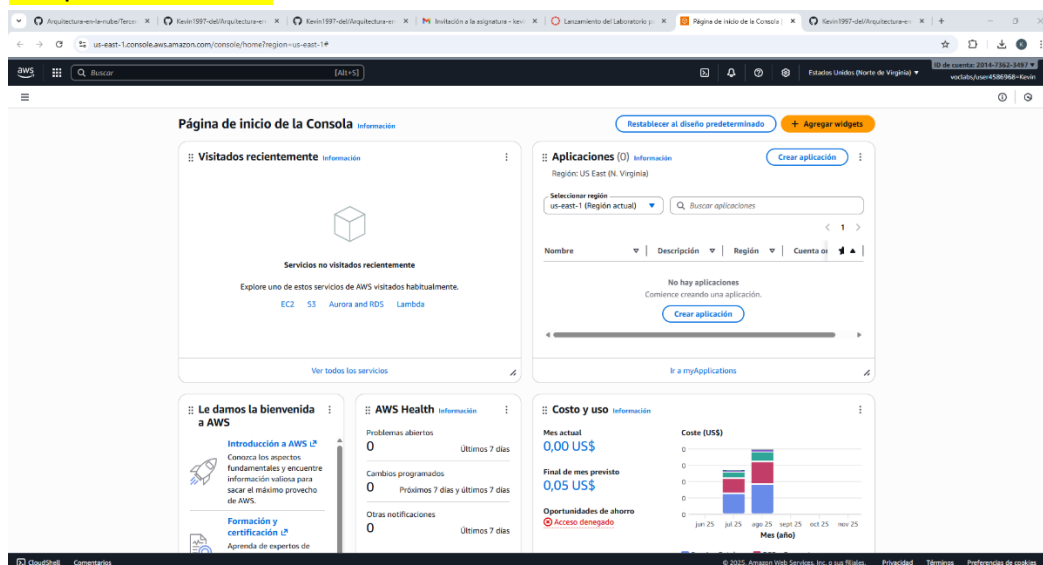
Esta captura muestra el panel inicial del **Learner Lab**, desde donde debes abrir la consola de AWS para crear recursos.



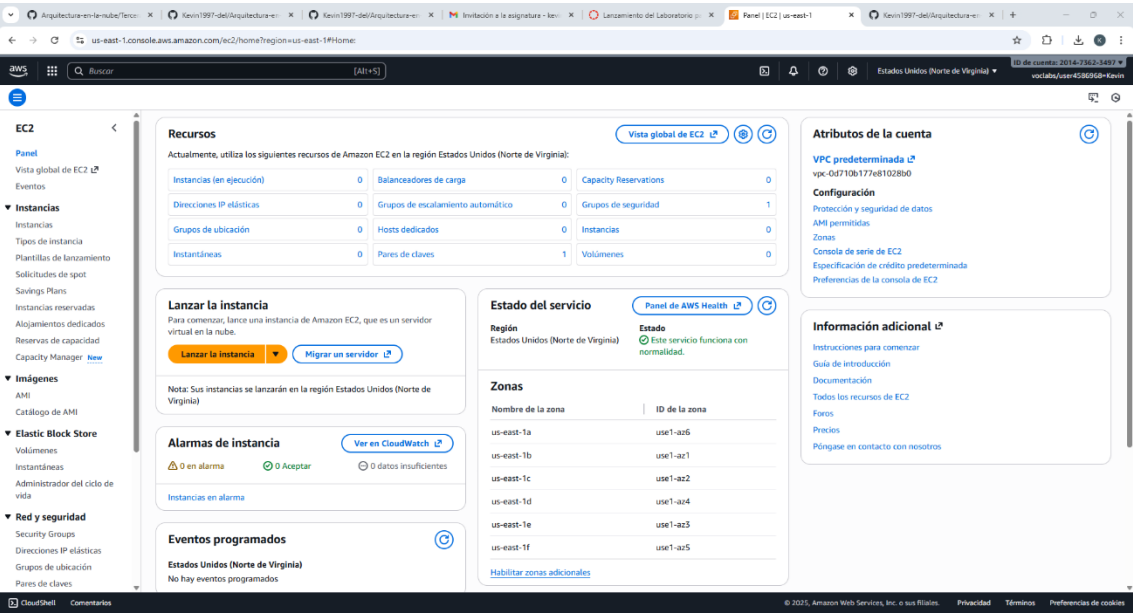
En la parte superior del módulo del Learner Lab, haz clic en **Start Lab**. Esto activará tus credenciales temporales.

Espera a que aparezca un mensaje indicando que el laboratorio está “running”.

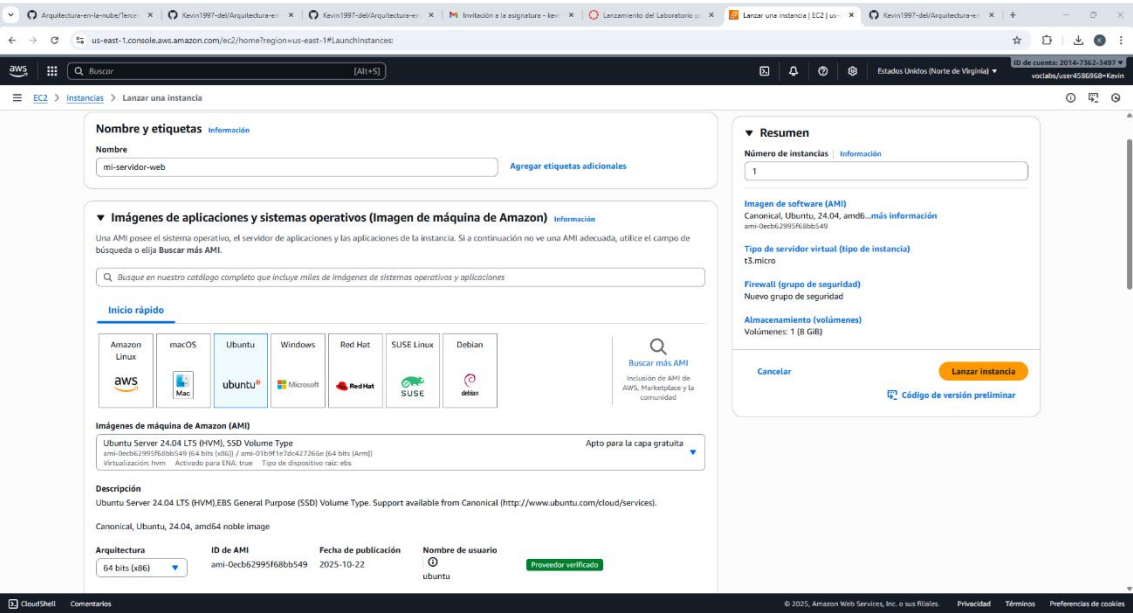
Una vez que esta en verde pulsas sobre AWS para entrar en la consola de máquinas virtuales:



Una vez allí tienes que pulsar EC2 para entrar a la configuración para poder crear una estancia



Una vez allí debes irte al panel izquierdo y buscar Instancias pulsar en ello y acto seguido pulsar en Lanzar una instancia



Una vez aquí seleccionas la configuración que desees como cambiarle el nombre a la instancia o el SO que quieras usar o como también el nombre de las claves u otros parámetros:

Arquitectura en la nube | Tercer... Kevin1997-del/Arquitectura-e... Kevin1997-del/Arquitectura-e... Invitación a la asignatura - kevi... Lanzamiento del Laboratorio p... Lanzar una instancia | EC2 | us... Kevin1997-del/Arquitectura-e...

us-east-1.console.aws.amazon.com/ec2/home?region=us-east-1#launchinstances

EC2 > Instancias > Lanzar una instancia

▼ Tipo de instancia [Información](#) [Obtener asesoramiento](#)

Tipo de instancia

t3.micro Apto para la capa gratuita

Familia t3 - 2 vCPU - 1 GiB Memoria - Generación actual: true

Bajo demanda Ubuntu Pro base precios: 0.0139 USD por hora - Bajo demanda SUSE base precios: 0.0104 USD por hora

Bajo demanda Linux base precios: 0.0104 USD por hora - Bajo demanda RHEL base precios: 0.0392 USD por hora

Bajo demanda Windows base precios: 0.0196 USD por hora

Se aplican costos adicionales a las AMI con software preinstalado

☐ Todas las generaciones [Comparar tipos de instancias](#)

▼ Par de claves (inicio de sesión) [Información](#)

Puede utilizar un par de claves para conectarse de forma segura a la instancia. Asegúrese de que tiene acceso al par de claves seleccionado antes de lanzar la instancia.

Nombre del par de claves - obligatorio

vockey [Crear un nuevo par de claves](#)

▼ Configuraciones de red [Información](#) [Editar](#)

Red [Información](#)

vpc-0d710b177e81028b0

Subred [Información](#)

Sin preferencias (subred predeterminada en cualquier zona de disponibilidad)

Asignar automáticamente la IP pública [Información](#)

Habilitar

Firewall (grupos de seguridad) [Información](#)

Un grupo de seguridad es un conjunto de reglas de firewall que controlan el tráfico de la instancia. Agregue reglas para permitir que un tráfico específico llegue a la instancia.

☒ Crear grupo de seguridad ☐ Seleccionar un grupo de seguridad existente

Crearemos un nuevo grupo de seguridad denominado "launch-wizard-1" con las siguientes reglas:

▼ Resumen

Número de instancias [Información](#)

1

Imagen de software (AMI)

Canonical, Ubuntu, 24.04, amd64... [más información](#)

ami-0ecb42991f61bb549

Tipo de servidor virtual (tipo de instancia)

t3.micro

Firewall (grupo de seguridad)

Nuevo grupo de seguridad

Almacenamiento (volumenes)

Volumenes: 1 (8 GiB)

[Cancelar](#) [Lanzar instancia](#) [Código de versión preliminar](#)

CloudShell Comentarios © 2025, Amazon Web Services, Inc. o sus filiales. Privacidad Términos Preferencias de cookies

Arquitectura en la nube | Tercer... Kevin1997-del/Arquitectura-e... Kevin1997-del/Arquitectura-e... Invitación a la asignatura - kevi... Lanzamiento del Laboratorio p... Lanzar una instancia | EC2 | us... Kevin1997-del/Arquitectura-e...

us-east-1.console.aws.amazon.com/ec2/home?region=us-east-1#launchinstances

EC2 > Instancias > Lanzar una instancia

☒ Crear grupo de seguridad ☐ Seleccionar un grupo de seguridad existente

Crearemos un nuevo grupo de seguridad denominado "launch-wizard-1" con las siguientes reglas:

☒ Permitir el tráfico de SSH desde [Ayuda a establecer conexión con la instancia](#) [Cualquier lugar](#) [0.0.0.0/0](#)

☐ Permitir el tráfico de HTTPS desde Internet

Para configurar un punto de enlace, por ejemplo, al crear un servidor web

☐ Permitir el tráfico de HTTP desde Internet

Para configurar un punto de enlace, por ejemplo, al crear un servidor web

⚠ Las reglas con origen 0.0.0.0/0 permiten que todas las direcciones IP tengan acceso a la instancia. Le recomendamos que configure las reglas del grupo de seguridad para permitir el acceso únicamente desde direcciones IP conocidas.

▼ Configurar almacenamiento [Información](#) [Avanzado](#)

1x GiB [gp3](#) Volumen raíz, 3000 IOPS, No cifrado

[Agregar un nuevo volumen](#)

La AMI seleccionada contiene volúmenes de almacén de instancias; sin embargo, la instancia no permite dichos volúmenes. Por lo que no se podrá obtener acceso a ninguno de estos volúmenes de la AMI desde la instancia

Haga clic en actualizar para ver la información de la copia de seguridad

Las etiquetas que asigne determinan si alguna política de Data Lifecycle Manager realizará una copia de seguridad de la instancia.

0 x sistemas de archivos [Editar](#)

▼ Detalles avanzados [Información](#)

▼ Resumen

Número de instancias [Información](#)

1

Imagen de software (AMI)

Canonical, Ubuntu, 24.04, amd64... [más información](#)

ami-0ecb42991f61bb549

Tipo de servidor virtual (tipo de instancia)

t3.micro

Firewall (grupo de seguridad)

Nuevo grupo de seguridad

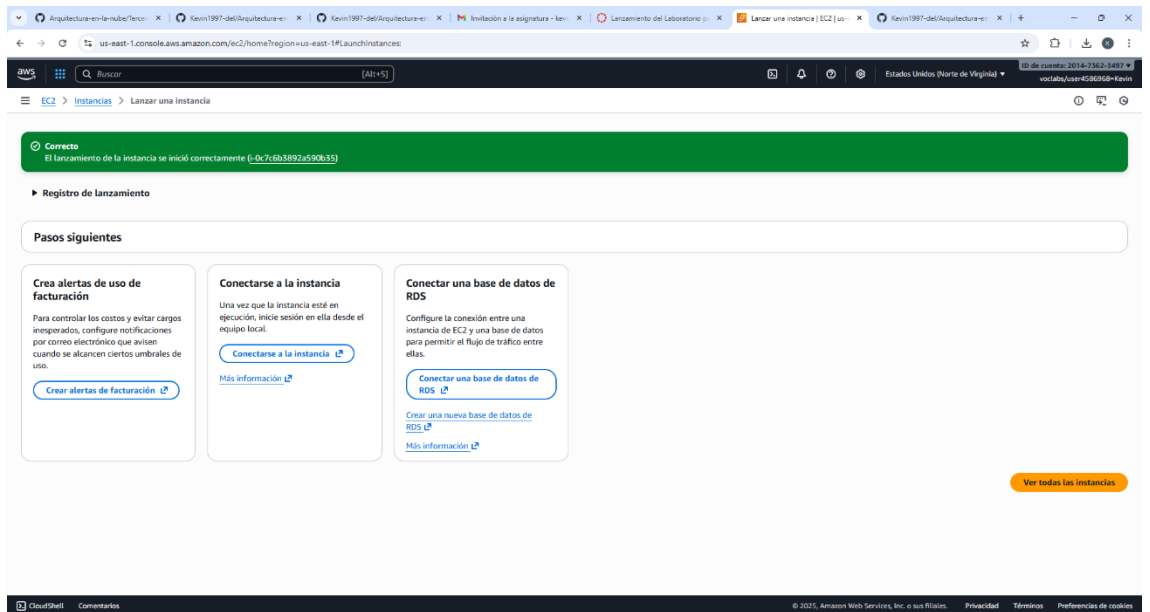
Almacenamiento (volumenes)

Volumenes: 1 (8 GiB)

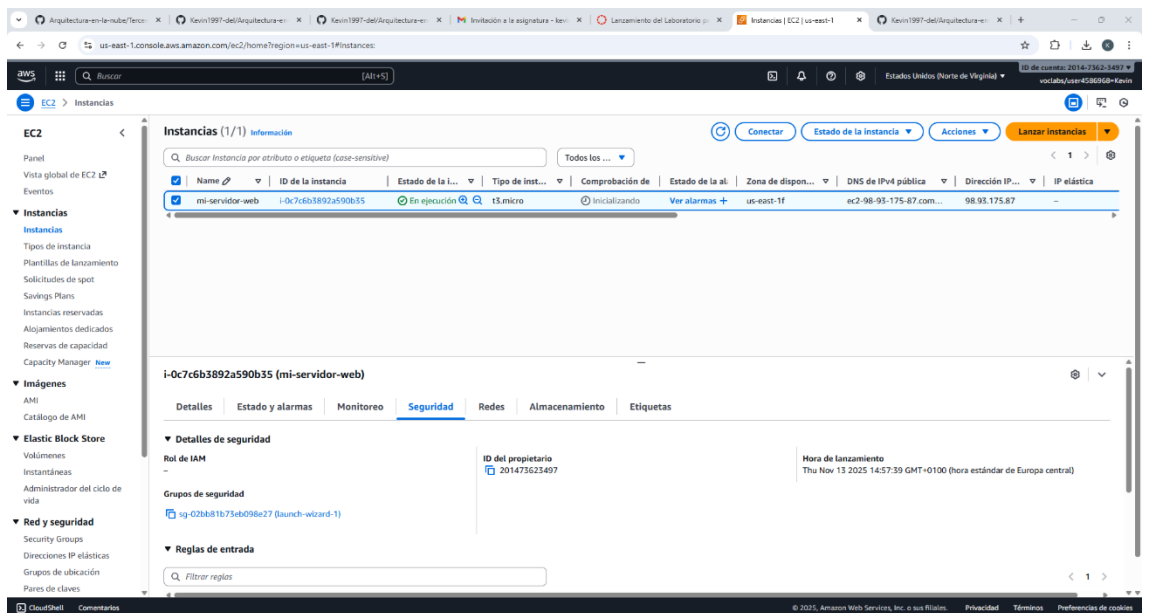
[Cancelar](#) [Lanzar instancia](#) [Código de versión preliminar](#)

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Una vez configurado todos los parámetros que quieras de das a Lanzar Instancia

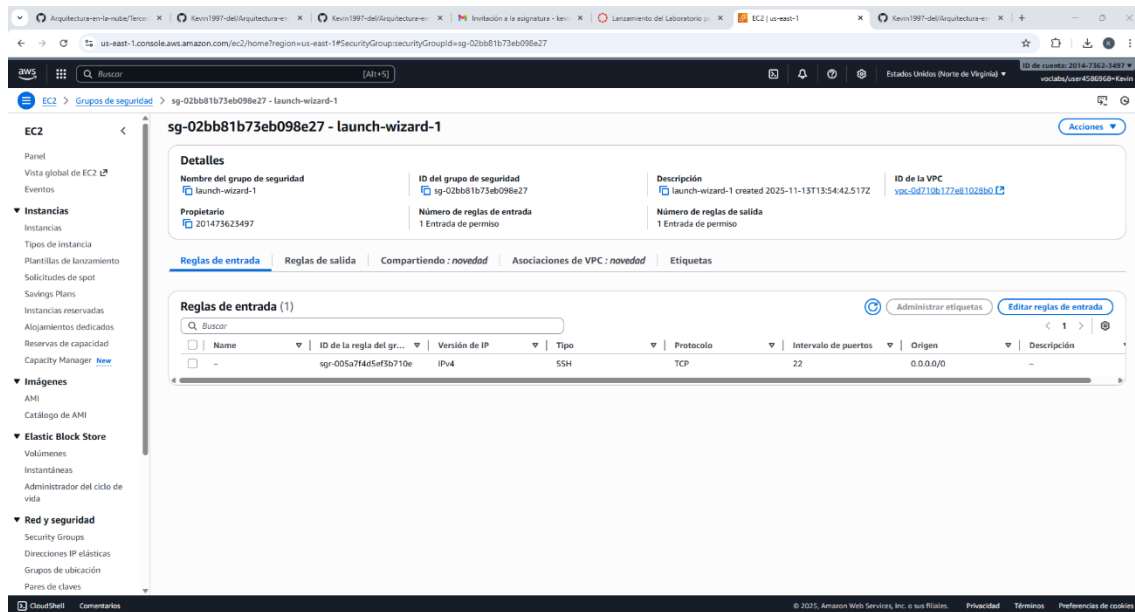


Y te saldrá algo como esto si todo salió bien

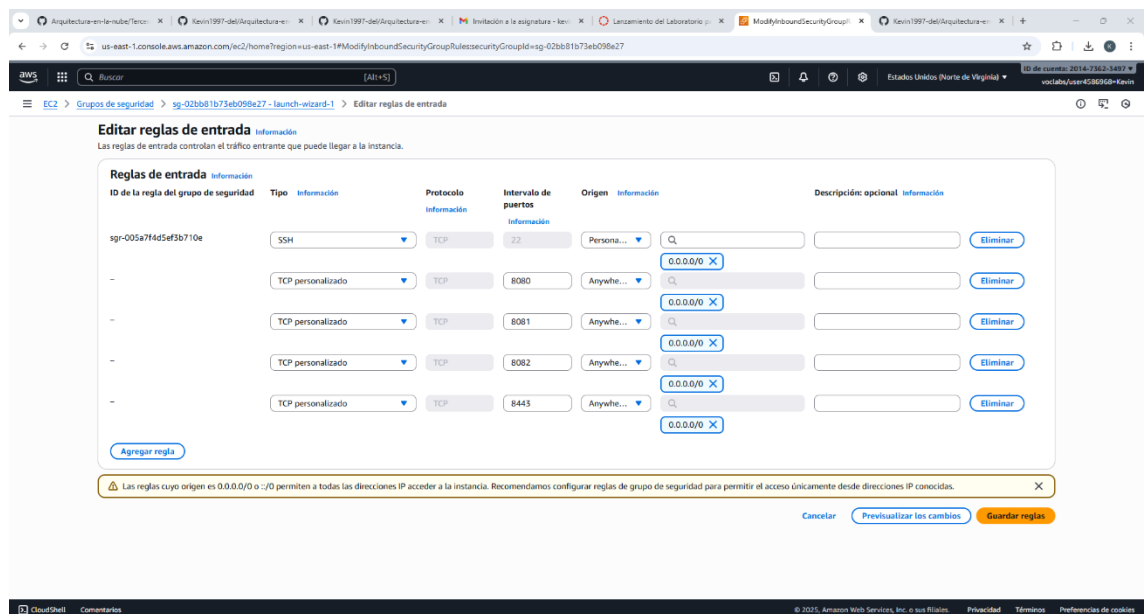


Despues de eso si entras en Instancias otra vez se debe ver tu instancia creada

Y si abajo pinchas en el apartado que pone Seguridad/ Grupos de seguridad(pinchando sobre el se abrirá una ventana con parámetros como la foto de abajo)



Y una vez aquí si pulsas en Editar reglas de entrada podras configurar mas parametros relacionados con los puertos...



Verificamos que tengo instalado en mi pc WSL:

```
kevin@DESKTOP-BBMJAGF: ~  
Windows PowerShell  
Copyright (C) Microsoft Corporation. Todos los derechos reservados.  
Instale la versión más reciente de PowerShell para obtener nuevas características.  
: //aka.ms/PSWindows  
PS C:\WINDOWS\system32> wsl --version  
Versión de WSL: 2.6.1.0  
Versión de kernel: 6.6.87.2-1  
Versión de WSLg: 1.0.66  
Versión de MSRDC: 1.2.6353  
Versión de Direct3D: 1.611.1-81528511  
Versión de DXCore: 10.0.26100.1-240331-1435.ge-release  
Versión de Windows: 10.0.26100.2033
```

Ahora guardamos la clave (.pem) en WSL y también le asignamos sus respectivos permisos

```
kevin@DESKTOP-BBMJAGF:~$ cp /mnt/c/Users/kevin/Downloads/labsuser.pem ~/.ssh/  
kevin@DESKTOP-BBMJAGF:~$ chmod 400 ~/.ssh/labsuser.pem  
kevin@DESKTOP-BBMJAGF:~$ ls -la ~/.ssh/labsuser.pem  
-r----- 1 kevin kevin 1678 Dec 10 18:05 /home/kevin/.ssh/labsuser.pem  
kevin@DESKTOP-BBMJAGF:~$
```

Por ultimo nos conectamos en remota a la instancia en Amazon:

```
Connection closed by 100.27.234.180 port 22
kevin@DESKTOP-BBMJAGF:~$ ssh -i ~/.ssh/labsuser.pem ubuntu@100.27.234.180
Welcome to Ubuntu 24.04.3 LTS (GNU/Linux 6.14.0-1017-aws x86_64)

 * Documentation:  https://help.ubuntu.com
 * Management:    https://landscape.canonical.com
 * Support:       https://ubuntu.com/pro

System information as of Wed Dec 10 17:37:40 UTC 2025

System load:  0.0           Temperature:   -273.1 C
Usage of /:   35.3% of 6.71GB Processes:     112
Memory usage: 25%          Users logged in: 0
Swap usage:   0%           IPv4 address for ens5: 172.31.78.20

Expanded Security Maintenance for Applications is not enabled.

0 updates can be applied immediately.

Enable ESM Apps to receive additional future security updates.
See https://ubuntu.com/esm or run: sudo pro status

Last login: Tue Nov 25 13:42:44 2025 from 88.0.30.77
ubuntu@ip-172-31-78-20:~$
```

Actualizando el sistema:

```
ubuntu@ip-172-31-78-20:~$ sudo apt update && sudo apt upgrade -y
Hit:1 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble InRelease
Get:2 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-updates InRelease [126 kB]
Get:3 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-backports InRelease [126 kB]
Get:4 http://security.ubuntu.com/ubuntu noble-security InRelease [126 kB]
Get:5 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-updates/main amd64 Packages [1665 kB]
Get:6 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-updates/main Translation-en [308 kB]
Get:7 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-updates/main amd64 Components [175 kB]
Get:8 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-updates/main amd64 c-n-f Metadata [15.8 kB]
Get:9 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-updates/universe amd64 Packages [1501 kB]
Get:10 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-updates/universe Translation-en [304 kB]
Get:11 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-updates/universe amd64 Components [378 kB]
Get:12 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-updates/universe amd64 c-n-f Metadata [31.4 kB]
Get:13 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-updates/restricted amd64 Packages [2386 kB]
Get:14 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-updates/restricted Translation-en [546 kB]
Get:15 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-updates/restricted amd64 Components [212 B]
Get:16 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-updates/multiverse amd64 Components [940 B]
Get:17 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-backports/main amd64 Components [7144 B]
Get:18 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-backports/universe amd64 Packages [29.2 kB]
Get:19 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-backports/universe Translation-en [17.6 kB]
Get:20 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-backports/universe amd64 Components [11.0 kB]
Get:21 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-backports/restricted amd64 Components [216 B]
Get:22 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-backports/multiverse amd64 Components [212 B]
Get:23 http://security.ubuntu.com/ubuntu noble-security/main amd64 Packages [1363 kB]
Get:24 http://security.ubuntu.com/ubuntu noble-security/main Translation-en [222 kB]
Get:25 http://security.ubuntu.com/ubuntu noble-security/main amd64 Components [21.6 kB]
Get:26 http://security.ubuntu.com/ubuntu noble-security/main amd64 c-n-f Metadata [9488 B]
Get:27 http://security.ubuntu.com/ubuntu noble-security/universe amd64 Packages [915 kB]
Get:28 http://security.ubuntu.com/ubuntu noble-security/universe Translation-en [206 kB]
Get:29 http://security.ubuntu.com/ubuntu noble-security/universe amd64 Components [71.5 kB]
Get:30 http://security.ubuntu.com/ubuntu noble-security/universe amd64 c-n-f Metadata [19.4 kB]
Get:31 http://security.ubuntu.com/ubuntu noble-security/restricted amd64 Packages [2234 kB]
Get:32 http://security.ubuntu.com/ubuntu noble-security/restricted Translation-en [511 kB]
Get:33 http://security.ubuntu.com/ubuntu noble-security/restricted amd64 Components [212 B]
Get:34 http://security.ubuntu.com/ubuntu noble-security/multiverse amd64 Components [208 B]
Fetched 13.3 MB in 2s (5400 kB/s)
Reading package lists... Done
Building dependency tree... Done
```



```

update-initramfs: Generating /boot/initrd.img-6.14.0-1018-aws
/etc/kernel/postinst.d/zz-update-grub:
Sourcing file '/etc/default/grub'
Sourcing file '/etc/default/grub.d/40-force-partuuid.cfg'
Sourcing file '/etc/default/grub.d/50-cloudimg-settings.cfg'
Generating grub configuration file ...
GRUB_FORCE_PARTUUID is set, will attempt initrdless boot
Found linux image: /boot/vmlinuz-6.14.0-1018-aws
Found initrd image: /boot/microcode.cpio /boot/initrd.img-6.14.0-1018-aws
Found linux image: /boot/vmlinuz-6.14.0-1017-aws
Found initrd image: /boot/microcode.cpio /boot/initrd.img-6.14.0-1017-aws
Found linux image: /boot/vmlinuz-6.14.0-1016-aws
Found initrd image: /boot/microcode.cpio /boot/initrd.img-6.14.0-1016-aws
Warning: os-prober will not be executed to detect other bootable partitions.
Systems on them will not be added to the GRUB boot configuration.
Check GRUB_DISABLE_OS_PROBER documentation entry.
Adding boot menu entry for UEFI Firmware Settings ...
done
Scanning processes...
Scanning candidates...
Scanning linux images...

Pending kernel upgrade!
Running kernel version:
  6.14.0-1017-aws
Diagnostics:
  The currently running kernel version is not the expected kernel version 6.14.0-1018-aws.

Restarting the system to load the new kernel will not be handled automatically, so you should
consider rebooting.

Restarting services...
/etc/needrestart/restart.d/systemd-manager
systemctl restart irqbalance.service packagekit.service polkit.service udisks2.service

Service restarts being deferred:
systemctl restart ModemManager.service
/etc/needrestart/restart.d/dbus.service
systemctl restart networkd-dispatcher.service
systemctl restart unattended-upgrades.service

No containers need to be restarted.

User sessions running outdated binaries:
ubuntu @ user manager service: systemd[1083]

No VM guests are running outdated hypervisor (qemu) binaries on this host.
ubuntu@ip-172-31-78-20:~$ |

```

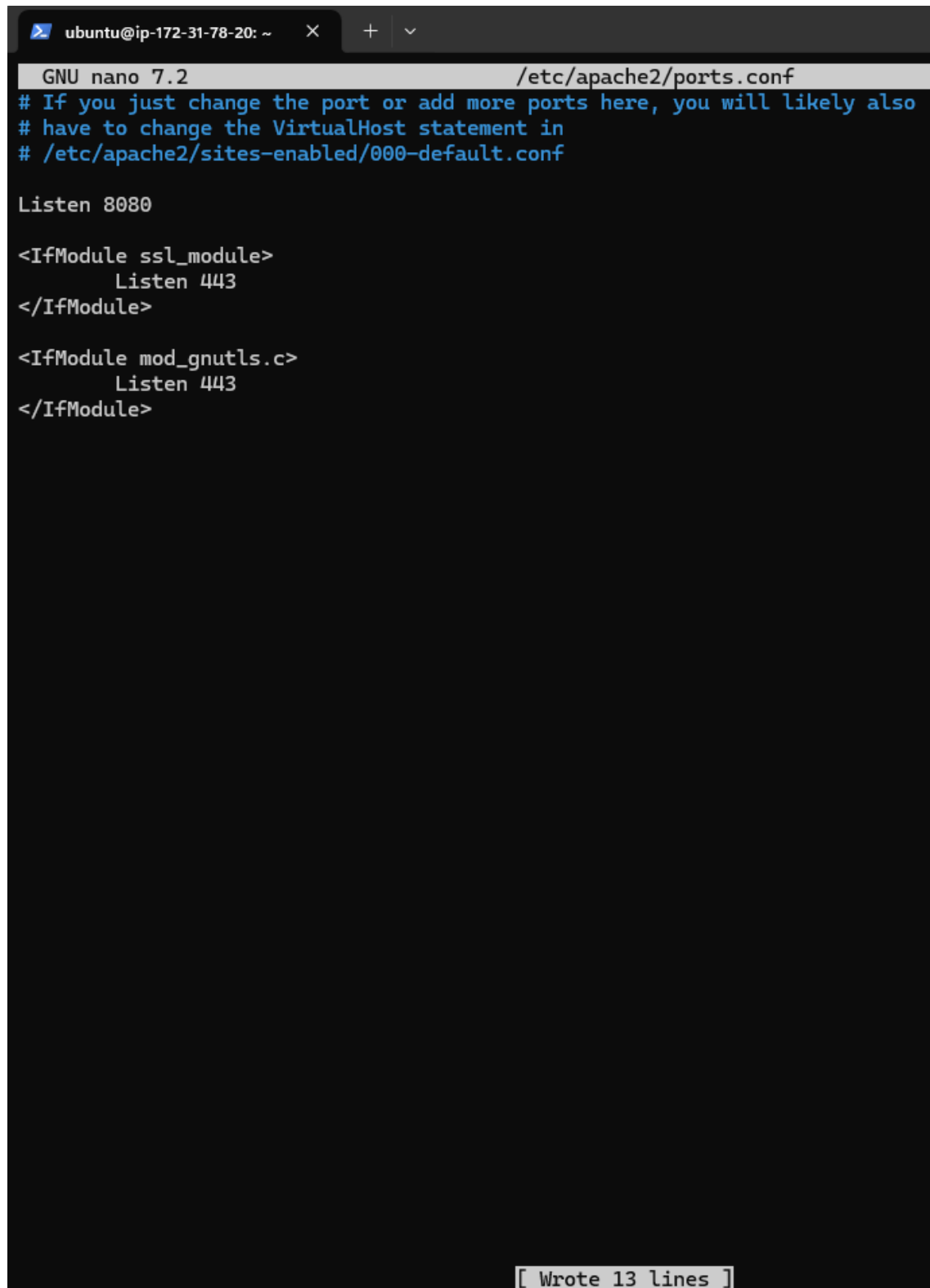
Instalando Apache2:

```

ubuntu@ip-172-31-78-20:~$ sudo apt install apache2 -y
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
apache2 is already the newest version (2.4.58-1ubuntu8.8).
The following packages were automatically installed and are no longer required:
  linux-aws-6.14-headers-6.14.0-1016 linux-aws-6.14-tools-6.14.0-1016 linux-headers-6.14.0-1016-aws
  linux-image-6.14.0-1016-aws linux-modules-6.14.0-1016-aws linux-tools-6.14.0-1016-aws
Use 'sudo apt autoremove' to remove them.
0 upgraded, 0 newly installed, 0 to remove and 0 not upgraded.
ubuntu@ip-172-31-78-20:~$

```

Cambiando listen 80 por 8080



```
ubuntu@ip-172-31-78-20: ~  
GNU nano 7.2 /etc/apache2/ports.conf  
# If you just change the port or add more ports here, you will likely also  
# have to change the VirtualHost statement in  
# /etc/apache2/sites-enabled/000-default.conf  
  
Listen 8080  
  
<IfModule ssl_module>  
    Listen 443  
</IfModule>  
  
<IfModule mod_gnutls.c>  
    Listen 443  
</IfModule>  
  
[ Wrote 13 lines ]
```

Modificando el virtual Host:

```
ubuntu@ip-172-31-78-20: ~  
GNU nano 7.2 /etc/apache2/sites-available/000-default.conf *  
<VirtualHost *:8080>  
    # The ServerName directive sets the request scheme, hostname and port that  
    # the server uses to identify itself. This is used when creating  
    # redirection URLs. In the context of virtual hosts, the ServerName  
    # specifies what hostname must appear in the request's Host: header to  
    # match this virtual host. For the default virtual host (this file) this  
    # value is not decisive as it is used as a last resort host regardless.  
    # However, you must set it for any further virtual host explicitly.  
    #ServerName www.example.com
```

Instalando apache 2 con su corespondiente librería:

```
ubuntu@ip-172-31-78-20:~$ sudo apt install php libapache2-mod-php -y  
Reading package lists... Done  
Building dependency tree... Done  
Reading state information... Done  
The following packages were automatically installed and are no longer required:  
  linux-aws-6.14.0-1016 linux-aws-6.14-tools-6.14.0-1016 linux-headers-6.14.0-1016-aws  
  linux-image-6.14.0-1016-aws linux-modules-6.14.0-1016-aws linux-tools-6.14.0-1016-aws  
Use 'sudo apt autoremove' to remove them.  
The following additional packages will be installed:  
  libapache2-mod-php8.3 php-common php8.3 php8.3-cli php8.3-common php8.3-opcache php8.3-readline  
Suggested packages:  
  php-pear  
The following NEW packages will be installed:  
  libapache2-mod-php libapache2-mod-php8.3 php php-common php8.3 php8.3-cli php8.3-common  
  php8.3-opcache php8.3-readline  
0 upgraded, 9 newly installed, 0 to remove and 0 not upgraded.  
Need to get 4922 kB of archives.  
After this operation, 22.4 MB of additional disk space will be used.  
Get:1 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble/main amd64 php-common all 2:93ubuntu2 [13.  
9 kB]  
Get:2 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-updates/main amd64 php8.3-common amd64 8.3.  
6-0ubuntu0.24.04.5 [740 kB]  
Get:3 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-updates/main amd64 php8.3-opcache amd64 8.  
3.6-0ubuntu0.24.04.5 [371 kB]  
Get:4 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-updates/main amd64 php8.3-readline amd64 8  
.3.6-0ubuntu0.24.04.5 [13.5 kB]  
Get:5 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-updates/main amd64 php8.3-cli amd64 8.3.6-  
0ubuntu0.24.04.5 [1915 kB]  
Get:6 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-updates/main amd64 libapache2-mod-php8.3 a  
md64 8.3.6-0ubuntu0.24.04.5 [1851 kB]  
Get:7 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble/main amd64 libapache2-mod-php all 2:8.3+93  
ubuntu2 [4224 B]  
Get:8 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-updates/main amd64 php8.3 all 8.3.6-0ubunt  
u0.24.04.5 [9174 B]  
Get:9 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble/main amd64 php all 2:8.3+93ubuntu2 [4076 B  
]  
Fetched 4922 kB in 0s (41.4 MB/s)  
Selecting previously unselected package php-common.  
(Reading database ... 135762 files and directories currently installed.)  
Preparing to unpack .../0-php-common_2%3a93ubuntu2_all.deb ...  
Unpacking php-common (2:93ubuntu2) ...  
Selecting previously unselected package php8.3-common.  
Preparing to unpack .../1-php8.3-common_8.3.6-0ubuntu0.24.04.5_amd64.deb ...  
Unpacking php8.3-common (8.3.6-0ubuntu0.24.04.5) ...  
Selecting previously unselected package php8.3-opcache.  
Preparing to unpack .../2-php8.3-opcache_8.3.6-0ubuntu0.24.04.5_amd64.deb ...  
Unpacking php8.3-opcache (8.3.6-0ubuntu0.24.04.5) ...  
Selecting previously unselected package php8.3-readline.  
Preparing to unpack .../3-php8.3-readline_8.3.6-0ubuntu0.24.04.5_amd64.deb ...  
Unpacking php8.3-readline (8.3.6-0ubuntu0.24.04.5) ...
```

```

Setting up php8.3-opcache (8.3.6-0ubuntu0.24.04.5) ...
Creating config file /etc/php/8.3/mods-available/opcache.ini with new version
Setting up php8.3-cli (8.3.6-0ubuntu0.24.04.5) ...
update-alternatives: using /usr/bin/php8.3 to provide /usr/bin/php (php) in auto mode
update-alternatives: using /usr/bin/phar8.3 to provide /usr/bin/phar (phar) in auto mode
update-alternatives: using /usr/bin/phar.phar8.3 to provide /usr/bin/phar.phar (phar.phar) in auto mode

Creating config file /etc/php/8.3/cli/php.ini with new version
Setting up libapache2-mod-php8.3 (8.3.6-0ubuntu0.24.04.5) ...

Creating config file /etc/php/8.3/apache2/php.ini with new version
Module mpm_event disabled.
Enabling module mpm_prefork.
apache2_switch_mpm Switch to prefork
apache2_invoke: Enable module php8.3
Setting up php8.3 (8.3.6-0ubuntu0.24.04.5) ...
Setting up libapache2-mod-php (2:8.3+93ubuntu2) ...
Setting up php (2:8.3+93ubuntu2) ...
Processing triggers for man-db (2.12.0-4build2) ...
Processing triggers for php8.3-cli (8.3.6-0ubuntu0.24.04.5) ...
Processing triggers for libapache2-mod-php8.3 (8.3.6-0ubuntu0.24.04.5) ...
Scanning processes...
Scanning candidates...
Scanning linux images...

Pending kernel upgrade!
Running kernel version:
 6.14.0-1017-aws
Diagnostics:
  The currently running kernel version is not the expected kernel version 6.14.0-1018-aws.

Restarting the system to load the new kernel will not be handled automatically, so you should
consider rebooting.

Restarting services...

Service restarts being deferred:
/etc/needrestart/restart.d/dbus.service
systemctl restart networkd-dispatcher.service
systemctl restart unattended-upgrades.service

No containers need to be restarted.

User sessions running outdated binaries:
ubuntu @ user manager service: systemd[1083]

No VM guests are running outdated hypervisor (qemu) binaries on this host.
ubuntu@ip-172-31-78-20:~$

```

Creando archivo de prueba:

```

ubuntu@ip-172-31-78-20:~$ echo "<?php phpinfo(); ?>" | sudo tee /var/www/html/info.php
<?php phpinfo(); ?>
ubuntu@ip-172-31-78-20:~$

```

Probando apache desde terminal...

[illegible]

```
|<td class="e">System V Message Based IPC </td><td class="v">Aez Furlong </td></tr>
|<td class="e">System V Semaphores </td><td class="v">Tom May </td></tr>
|<td class="e">System V Shared Memory </td><td class="v">Christian Cartus </td></tr>
|<td class="e">Tidb </td><td class="v">John Coggeshall, Ilia Alabunetsky </td></tr>
|<td class="e">tokenizer </td><td class="v">Andrei Zmievskii, Johannes Schlueter </td></tr>
|<td class="e">XML </td><td class="v">Stig Bakken, Thies C. Arntzen, Sterling Hughes </td></tr>
|<td class="e">XSL </td><td class="v">Rob Richards </td></tr>
|<td class="e">XSLWriter </td><td class="v">Rob Richards, Pierre-Alain Joye </td></tr>
|<td class="e">XSL </td><td class="v">Christian Stocker, Rob Richards </td></tr>
|<td class="e">Zip </td><td class="v">Pierre-Alain Joye, Rami Collet </td></tr>
|<td class="e">Zlib </td><td class="v">Rasmus Lerdorf, Stefan Roehrich, Zeev Suraski, Jade Nicoletti, Michael Wallner </td></tr>
</table>
<table>
|<td class="e">Authors </td><td class="v">Nehal Kohur, Friedhelm Betz, Antony Doupal, Nuno Lopes, Hannes Magnusson, Philip Olson, Georg Richter, Damien Seguy, Jakub Vrana, Adam Harvey </td></tr>
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|<td class="e">Windows Infrastructure </td><td class="v">Alex Schoenmaker </td></tr>
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<table>
|<td class="e">Ondrej Sury </td></tr>
</table>
<table>
|<td colspan="2">PHP License</td></tr>
</table>
<table>
|<td colspan="2">
<p>
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</p>
</td></tr>
</table>
</div>
<div id="ip">
<p>
<code>curl ip-172-31-78-20-$

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```

Instalando Nginx:

```

ubuntu@ip-172-31-78-20:~$ sudo apt install nginx -y
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following packages were automatically installed and are no longer required:
  linux-aws-6.14-headers-6.14.0-1016 linux-aws-6.14-tools-6.14.0-1016
  linux-headers-6.14.0-1016-aws linux-image-6.14.0-1016-aws linux-modules-6.14.0-1016-aws
  linux-tools-6.14.0-1016-aws
Use 'sudo apt autoremove' to remove them.
The following additional packages will be installed:
  nginx-common
Suggested packages:
  fcgiwrap nginx-doc
The following NEW packages will be installed:
  nginx nginx-common
0 upgraded, 2 newly installed, 0 to remove and 0 not upgraded.
Need to get 564 kB of archives.
After this operation, 1596 kB of additional disk space will be used.
Get:1 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-updates/main amd64 nginx-common all 1.24.0-2ubuntu7.5 [43.4 kB]
Get:2 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-updates/main amd64 nginx amd64 1.24.0-2ubuntu7.5 [520 kB]
Fetched 564 kB in 0s (19.3 MB/s)
Preconfiguring packages ...
Selecting previously unselected package nginx-common.
(Reading database ... 135942 files and directories currently installed.)
Preparing to unpack .../nginx-common_1.24.0-2ubuntu7.5_all.deb ...
Unpacking nginx-common (1.24.0-2ubuntu7.5) ...
Selecting previously unselected package nginx.
Preparing to unpack .../nginx_1.24.0-2ubuntu7.5_amd64.deb ...
Unpacking nginx (1.24.0-2ubuntu7.5) ...
Setting up nginx-common (1.24.0-2ubuntu7.5) ...
Created symlink /etc/systemd/system/multi-user.target.wants/nginx.service → /usr/lib/systemd/system/nginx.service.
Setting up nginx (1.24.0-2ubuntu7.5) ...
  * Upgrading binary nginx [ OK ]
Processing triggers for man-db (2.12.0-4build2) ...
Processing triggers for ufw (0.36.2-6) ...
Scanning processes...
Scanning linux images...

Running kernel seems to be up-to-date.

No services need to be restarted.

No containers need to be restarted.

No user sessions are running outdated binaries.

No VM guests are running outdated hypervisor (qemu) binaries on this host.
ubuntu@ip-172-31-78-20:~$

```

Cambiando el listen 80 por el 8081:

```

ubuntu@ip-172-31-78-20: ~
GNU nano 7.2 /etc/nginx/sites-available/default *
# https://www.nginx.com/resources/wiki/start/topics/tutorials/config_pitfalls/
# https://wiki.debian.org/Nginx/DirectoryStructure
#
# In most cases, administrators will remove this file from sites-enabled/
# leave it as reference inside of sites-available where it will continue to
# be updated by the nginx packaging team.
#
# This file will automatically load configuration files provided by other
# applications, such as Drupal or Wordpress. These applications will be made
# available underneath a path with that package name, such as /drupal8.
#
# Please see /usr/share/doc/nginx-doc/examples/ for more detailed examples.
##

# Default server configuration
#
server {
    listen 8081 default_server;
    listen [::]:8081 default_server;

    # SSL configuration
    #
    # listen 443 ssl default_server;
    # listen [::]:443 ssl default_server;

```

Creando pagina html para Nginx:

```
ubuntu@ip-172-31-78-20:~$ echo "<h1>Servidor Nginx</h1><p>Funciona en puerto 8081</p>" | sudo
tee /usr/share/nginx/html/index.html
<h1>Servidor Nginx</h1><p>Funciona en puerto 8081</p>
ubuntu@ip-172-31-78-20:~$
```

Comprobando que funciona Nginx:

```
ubuntu@ip-172-31-78-20:~$ sudo systemctl status nginx
● nginx.service - A high performance web server and a reverse proxy server
   Loaded: loaded (/usr/lib/systemd/system/nginx.service; enabled; preset: enabled)
   Active: active (running) since Thu 2025-12-11 19:08:19 UTC; 13s ago
     Docs: man:nginx(8)
  Process: 2054 ExecStartPre=/usr/sbin/nginx -t -q -g daemon on; master_process on; (code=exi
  Process: 2058 ExecStart=/usr/sbin/nginx -g daemon on; master_process on; (code=exited, sta
 Main PID: 2059 (nginx)
    Tasks: 3 (limit: 1017)
   Memory: 2.4M (peak: 2.6M)
      CPU: 17ms
   CGroup: /system.slice/nginx.service
           └─2059 "nginx: master process /usr/sbin/nginx -g daemon on; master_process on;"
             └─2060 "nginx: worker process"
               └─2061 "nginx: worker process"

Dec 11 19:08:19 ip-172-31-78-20 systemd[1]: Starting nginx.service - A high performance web s
Dec 11 19:08:19 ip-172-31-78-20 systemd[1]: Started nginx.service - A high performance web s
lines 1-17/17 (END)
```

Comprobando la escucha de los puertos para nginx:

```
ubuntu@ip-172-31-78-20:~$ sudo netstat -tulpn | grep nginx
tcp        0      0 0.0.0.0:8081          0.0.0.0:*            LISTEN      2059/nginx: m
aster
tcp6       0      0 :::8081              :::*                  LISTEN      2059/nginx: m
aster
ubuntu@ip-172-31-78-20:~$
```


Probando Nginx:

```
ubuntu@ip-172-31-78-20:~$ curl http://localhost:8081
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN" "http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">
<html xmlns="http://www.w3.org/1999/xhtml">
  <!--
    Modified from the Debian original for Ubuntu
    Last updated: 2022-03-22
    See: https://launchpad.net/bugs/1966004
  -->
  <head>
    <meta http-equiv="Content-Type" content="text/html; charset=UTF-8" />
    <title>Apache2 Ubuntu Default Page: It works</title>
    <style type="text/css" media="screen">
      * {
        margin: 0px 0px 0px 0px;
        padding: 0px 0px 0px 0px;
      }

      body, html {
        padding: 3px 3px 3px 3px;

        background-color: #D8DBE2;

        font-family: Ubuntu, Verdana, sans-serif;
        font-size: 11pt;
        text-align: center;
      }

      div.main_page {
        position: relative;
        display: table;

        width: 800px;

        margin-bottom: 3px;
        margin-left: auto;
        margin-right: auto;
        padding: 0px 0px 0px 0px;

        border-width: 2px;
        border-color: #212738;
        border-style: solid;

        background-color: #FFFFFF;

        text-align: center;
      }

      div.page_header {
        height: 180px;
```

Instalando dependencias para Caddy:

```
ubuntu@ip-172-31-78-20:~$ sudo apt install -y debian-keyring debian-archive-keyring apt-trans
port-https curl
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
curl is already the newest version (8.5.0-2ubuntu10.6).
curl set to manually installed.
The following packages were automatically installed and are no longer required:
  linux-aws-6.14-headers-6.14.0-1016 linux-aws-6.14-tools-6.14.0-1016
  linux-headers-6.14.0-1016-aws linux-image-6.14.0-1016-aws linux-modules-6.14.0-1016-aws
  linux-tools-6.14.0-1016-aws
Use 'sudo apt autoremove' to remove them.
The following NEW packages will be installed:
  apt-transport-https debian-archive-keyring debian-keyring
0 upgraded, 3 newly installed, 0 to remove and 0 not upgraded.
Need to get 31.5 MB of archives.
After this operation, 33.4 MB of additional disk space will be used.
Get:1 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-updates/universe amd64 apt-transport-https all 2.8.3 [3970 B]
Get:2 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble/universe amd64 debian-archive-keyring all 2023.4ubuntu1 [168 kB]
Get:3 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble/universe amd64 debian-keyring all 2023.12.24 [31.3 MB]
Fetched 31.5 MB in 0s (91.7 MB/s)
Selecting previously unselected package apt-transport-https.
(Reading database ... 135990 files and directories currently installed.)
Preparing to unpack .../apt-transport-https_2.8.3_all.deb ...
Unpacking apt-transport-https (2.8.3) ...
Selecting previously unselected package debian-archive-keyring.
Preparing to unpack .../debian-archive-keyring_2023.4ubuntu1_all.deb ...
Unpacking debian-archive-keyring (2023.4ubuntu1) ...
Selecting previously unselected package debian-keyring.
Preparing to unpack .../debian-keyring_2023.12.24_all.deb ...
Unpacking debian-keyring (2023.12.24) ...
Setting up apt-transport-https (2.8.3) ...
Setting up debian-archive-keyring (2023.4ubuntu1) ...
Setting up debian-keyring (2023.12.24) ...
Scanning processes...
Scanning linux images...

Running kernel seems to be up-to-date.

No services need to be restarted.

No containers need to be restarted.

No user sessions are running outdated binaries.

No VM guests are running outdated hypervisor (qemu) binaries on this host.
ubuntu@ip-172-31-78-20:~$
```


Y agregándole su repositorio:

```
ubuntu@ip-172-31-78-20:~$ curl -1sLf 'https://dl.cloudsmith.io/public/caddy/stable/gpg.key' \
| sudo gpg --dearmor -o /usr/share/keyrings/caddy-stable-archive-keyring.gpg
curl -1sLf 'https://dl.cloudsmith.io/public/caddy/stable/debian.deb.txt' \
| sudo tee /etc/apt/sources.list.d/caddy-stable.list

# Source: Caddy
# Site: https://github.com/caddyserver/caddy
# Repository: Caddy / stable
# Description: Fast, multi-platform web server with automatic HTTPS

deb [signed-by=/usr/share/keyrings/caddy-stable-archive-keyring.gpg] https://dl.cloudsmith.io/public/caddy/stable/deb/debian any-version main

deb-src [signed-by=/usr/share/keyrings/caddy-stable-archive-keyring.gpg] https://dl.cloudsmith.io/public/caddy/stable/deb/debian any-version main
ubuntu@ip-172-31-78-20:~$
```

Ahora instalamos Caddy:

```
ubuntu@ip-172-31-78-20:~$ sudo apt update && sudo apt install caddy -y
Hit:1 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble InRelease
Get:2 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-updates InRelease [126 kB]
Get:3 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-backports InRelease [126 kB]
Hit:4 http://security.ubuntu.com/ubuntu noble-security InRelease
Get:5 https://dl.cloudsmith.io/public/caddy/stable/deb/debian any-version InRelease [14.8 kB]
Get:6 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-updates/main amd64 Packages [1675 kB]
Get:7 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-updates/main Translation-en [309 kB]
Get:8 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-updates/main amd64 Components [175 kB]
Get:9 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-updates/main amd64 c-n-f Metadata [15.8 kB]
Get:10 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-updates/universe amd64 Packages [1501 kB]
Get:11 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-updates/universe amd64 Components [378 kB]
Get:12 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-updates/restricted amd64 Packages [2404 kB]
Get:13 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-updates/restricted Translation-en [549 kB]
Get:14 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-updates/restricted amd64 Components [212 B]
Get:15 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-updates/multiverse amd64 Components [940 B]
Get:16 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-backports/main amd64 Components [7144 B]
Get:17 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-backports/universe amd64 Components [11.0 kB]
Get:18 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-backports/restricted amd64 Components [216 B]
Get:19 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-backports/multiverse amd64 Components [212 B]
Get:20 https://dl.cloudsmith.io/public/caddy/stable/deb/debian any-version/main amd64 Packages [4329 B]
Fetched 7298 kB in 1s (5371 kB/s)
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
1 package can be upgraded. Run 'apt list --upgradable' to see it.
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following packages were automatically installed and are no longer required:
  linux-aws-6.14-headers-6.14.0-1016 linux-aws-6.14-tools-6.14.0-1016
  linux-headers-6.14.0-1016-aws linux-image-6.14.0-1016-aws linux-modules-6.14.0-1016-aws
  linux-tools-6.14.0-1016-aws
Use 'sudo apt autoremove' to remove them.
The following NEW packages will be installed:
  caddy
0 upgraded, 1 newly installed, 0 to remove and 1 not upgraded.
Need to get 16.0 MB of archives.
After this operation, 44.5 MB of additional disk space will be used.
Get:1 https://dl.cloudsmith.io/public/caddy/stable/deb/debian any-version/main amd64 caddy amd64 2.10.2 [16.0 MB]
Fetched 16.0 MB in 0s (87.5 MB/s)
Selecting previously unselected package caddy.
(Reading database ... 136026 files and directories currently installed.)
Preparing to unpack .../caddy_2.10.2_amd64.deb ...
Unpacking caddy (2.10.2) ...
Setting up caddy (2.10.2) ...
Created symlink /etc/systemd/system/multi-user.target.wants/caddy.service → /usr/lib/systemd/system/caddy.service.
Processing triggers for man-db (2.12.0-4build2) ...
Scanning processes...
```

```
Running kernel seems to be up-to-date.

No services need to be restarted.

No containers need to be restarted.

No user sessions are running outdated binaries.

No VM guests are running outdated hypervisor (qemu) binaries on this host.
ubuntu@ip-172-31-78-20:~$
```

Ahora crearemos un directorio específico para Caddy:

```
ubuntu@ip-172-31-78-20:~$ sudo mkdir -p /var/www/caddy
ubuntu@ip-172-31-78-20:~$
```

Ahora creamos un markdown de prueba:

```
ubuntu@ip-172-31-78-20:~$ echo "# Bienvenido a Caddy" | sudo tee /var/www/caddy/README.md
echo "" | sudo tee -a /var/www/caddy/README.md
echo "Este servidor está funcionando correctamente." | sudo tee -a /var/www/caddy/README.md
echo "" | sudo tee -a /var/www/caddy/README.md
echo "## Características" | sudo tee -a /var/www/caddy/README.md
echo "- Servidor moderno" | sudo tee -a /var/www/caddy/README.md
echo "- HTTPS automático" | sudo tee -a /var/www/caddy/README.md
echo "- Fácil configuración" | sudo tee -a /var/www/caddy/README.md
# Bienvenido a Caddy

Este servidor está funcionando correctamente.

## Características
- Servidor moderno
- HTTPS automático
- Fácil configuración
ubuntu@ip-172-31-78-20:~$
```

Y también una imagen de muestra para ver si funcionan archivos estáticos:

```
ubuntu@ip-172-31-78-20:~$ curl -o /tmp/test-image.jpg "https://www.python.org/static/apple-to
uch-icon-144x144-precomposed.png"
sudo mv /tmp/test-image.jpg /var/www/caddy/test.jpg
  % Total    % Received % Xferd  Average Speed   Time    Time     Time  Current
                                 Dload  Upload  Total   Spent    Left   Speed
100  7382  100  7382    0     0  179k      0  --:--:-- --:--:-- --:--:--  180k
ubuntu@ip-172-31-78-20:~$
```

Creando Caddyfile personalizado:

```
ubuntu@ip-172-31-78-20: ~  
GNU nano 7.2 /etc/caddy/Caddyfile *  
# The Caddyfile is an easy way to configure your Caddy web server.  
#  
# Unless the file starts with a global options block, the first  
# uncommented line is always the address of your site.  
#  
# To use your own domain name (with automatic HTTPS), first make  
# sure your domain's A/AAAA DNS records are properly pointed to  
# this machine's public IP, then replace ":80" below with your  
# domain name.  
  
:8082 {  
    # Set this path to your site's directory.  
    root * /var/www/caddy  
  
    # Enable the static file server.  
    file_server browse  
  
    @markdown path *.md  
    header @markdown Content-Type text/plain  
    # Another common task is to set up a reverse proxy:  
    # reverse_proxy localhost:8080  
  
    # Or serve a PHP site through php-fpm:  
    # php_fastcgi localhost:9000
```

Reseteamos y comprobamos que funciona:

```
ubuntu@ip-172-31-78-20:~$ sudo systemctl restart caddy  
ubuntu@ip-172-31-78-20:~$ sudo systemctl status caddy  
● caddy.service - Caddy  
   Loaded: loaded (/usr/lib/systemd/system/caddy.service; enabled; preset: enabled)  
   Active: active (running) since Thu 2025-12-11 19:45:55 UTC; 14s ago  
     Docs: https://caddyserver.com/docs/  
    Main PID: 3107 (caddy)  
      Tasks: 7 (limit: 1017)  
     Memory: 10.3M (peak: 11.0M)  
        CPU: 75ms  
    CGroup: /system.slice/caddy.service  
            └─3107 /usr/bin/caddy run --environ --config /etc/caddy/Caddyfile  
  
Dec 11 19:45:55 ip-172-31-78-20 caddy[3107]: {"level":"info","ts":1765482355.830776,"logger">  
Dec 11 19:45:55 ip-172-31-78-20 caddy[3107]: {"level":"info","ts":1765482355.831168,"logger">  
Dec 11 19:45:55 ip-172-31-78-20 caddy[3107]: {"level":"warn","ts":1765482355.831579,"logger">  
Dec 11 19:45:55 ip-172-31-78-20 caddy[3107]: {"level":"warn","ts":1765482355.8315911,"logger">  
Dec 11 19:45:55 ip-172-31-78-20 caddy[3107]: {"level":"info","ts":1765482355.8315952,"logger">  
Dec 11 19:45:55 ip-172-31-78-20 caddy[3107]: {"level":"info","ts":1765482355.832239,"msg":"a>  
Dec 11 19:45:55 ip-172-31-78-20 systemd[1]: Started caddy.service - Caddy.  
Dec 11 19:45:55 ip-172-31-78-20 caddy[3107]: {"level":"info","ts":1765482355.8344584,"msg":">  
Dec 11 19:45:55 ip-172-31-78-20 caddy[3107]: {"level":"info","ts":1765482355.8383312,"logger">  
Dec 11 19:45:55 ip-172-31-78-20 caddy[3107]: {"level":"info","ts":1765482355.83842,"logger">  
lines 1-21/21 (END)
```

```
ubuntu@ip-172-31-78-20:~$ sudo netstat -tulpn | grep caddy
tcp        0      0 127.0.0.1:2019      0.0.0.0:*          LISTEN      3107/caddy
tcp6       0      0 :::8082             :::*               LISTEN      3107/caddy
ubuntu@ip-172-31-78-20:~$
```

```

        if (filterElem) {
            filterElem.addEventListener("keyup", filter);
        }

        document.getElementById("layout-list").addEventListener("click", function() {
            queryParam('layout', '');
        });
        document.getElementById("layout-grid").addEventListener("click", function() {
            queryParam('layout', 'grid');
        });

        window.addEventListener("load", initPage);

        function queryParam(k, v) {
            const qs = new URLSearchParams(window.location.search);
            if (!v) {
                qs.delete(k);
            } else {
                qs.set(k, v);
            }
            const qsStr = qs.toString();
            if (qsStr) {
                window.location.search = qsStr;
            } else {
                window.location = window.location.pathname;
            }
        }

        function localizeDatetime(e, index, ar) {
            if (e.textContent === undefined) {
                return;
            }
            var d = new Date(e.getAttribute('datetime'));
            if (!isNaN(d)) {
                d = new Date(e.textContent);
                if (!isNaN(d)) {
                    return;
                }
            }
            e.textContent = d.toLocaleString();
        }

        var timeList = Array.prototype.slice.call(document.getElementsByTagName("time"));
        timeList.forEach(localizeDatetime);
        // @license-end
    </script>
</body>
</html>

```

ubuntu@ip-172-31-78-20:~\$

```

ubuntu@ip-172-31-78-20:~$ curl http://localhost:8082/README.md
# Bienvenido a Caddy

```

Este servidor está funcionando correctamente.

Características

- Servidor moderno
- HTTPS automático
- Fácil configuración

ubuntu@ip-172-31-78-20:~\$

Verificación de los tres servidores:

```

● apache2.service - The Apache HTTP Server
   Loaded: loaded (/usr/lib/systemd/system/apache2.service; enabled; preset: enabled)
   Active: active (running) since Thu 2025-12-11 18:51:04 UTC; 1h 5min ago
     Docs: https://httpd.apache.org/docs/2.4/
    Main PID: 1659 (apache2)
      Tasks: 7 (limit: 1017)
     Memory: 12.1M (peak: 12.4M)
        CPU: 248ms
    CGroup: /system.slice/apache2.service
            └─1659 /usr/sbin/apache2 -k start
            └─1661 /usr/sbin/apache2 -k start
            └─1662 /usr/sbin/apache2 -k start
            └─1663 /usr/sbin/apache2 -k start
            └─1664 /usr/sbin/apache2 -k start
            └─1665 /usr/sbin/apache2 -k start
            └─2128 /usr/sbin/apache2 -k start

```

```

Dec 11 18:51:04 ip-172-31-78-20 systemd[1]: Starting apache2.service - The Apache HTTP Server.
Dec 11 18:51:04 ip-172-31-78-20 systemd[1]: Started apache2.service - The Apache HTTP Server.
lines 1-19/19 (END)

```

```

• nginx.service - A high performance web server and a reverse proxy server
   Loaded: loaded (/usr/lib/systemd/system/nginx.service; enabled; preset: enabled)
   Active: active (running) since Thu 2025-12-11 19:08:19 UTC; 49min ago
     Docs: man:nginx(8)
  Main PID: 2059 (nginx)
    Tasks: 3 (limit: 1017)
   Memory: 2.4M (peak: 2.6M)
      CPU: 18ms
   CGroup: /system.slice/nginx.service
           └─2059 "nginx: master process /usr/sbin/nginx -g daemon on; master_process on;"
             └─2060 "nginx: worker process"
               └─2061 "nginx: worker process"

Dec 11 19:08:19 ip-172-31-78-20 systemd[1]: Starting nginx.service - A high performance web >
Dec 11 19:08:19 ip-172-31-78-20 systemd[1]: Started nginx.service - A high performance web s>
lines 1-15/15 (END)

```

```

• caddy.service - Caddy
   Loaded: loaded (/usr/lib/systemd/system/caddy.service; enabled; preset: enabled)
   Active: active (running) since Thu 2025-12-11 19:45:55 UTC; 12min ago
     Docs: https://caddyserver.com/docs/
  Main PID: 3107 (caddy)
    Tasks: 7 (limit: 1017)
   Memory: 9.7M (peak: 11.0M)
      CPU: 96ms
   CGroup: /system.slice/caddy.service
           └─3107 /usr/bin/caddy run --environ --config /etc/caddy/Caddyfile

Dec 11 19:45:55 ip-172-31-78-20 caddy[3107]: {"level":"info","ts":1765482355.830776,"logger">
Dec 11 19:45:55 ip-172-31-78-20 caddy[3107]: {"level":"info","ts":1765482355.831168,"logger">
Dec 11 19:45:55 ip-172-31-78-20 caddy[3107]: {"level":"warn","ts":1765482355.831579,"logger">
Dec 11 19:45:55 ip-172-31-78-20 caddy[3107]: {"level":"warn","ts":1765482355.8315911,"logger">
Dec 11 19:45:55 ip-172-31-78-20 caddy[3107]: {"level":"info","ts":1765482355.8315952,"logger">
Dec 11 19:45:55 ip-172-31-78-20 caddy[3107]: {"level":"info","ts":1765482355.832239,"msg":"a>
Dec 11 19:45:55 ip-172-31-78-20 systemd[1]: Started caddy.service - Caddy.
Dec 11 19:45:55 ip-172-31-78-20 caddy[3107]: {"level":"info","ts":1765482355.8344584,"msg":">
Dec 11 19:45:55 ip-172-31-78-20 caddy[3107]: {"level":"info","ts":1765482355.8383312,"logger">
Dec 11 19:45:55 ip-172-31-78-20 caddy[3107]: {"level":"info","ts":1765482355.83842,"logger">
lines 1-21/21 (END)

```

Probando los tres puertos de los servidores creados simultaneamente:

```

ubuntu@ip-172-31-78-20:~$ sudo netstat -tulpn | grep -E '8080|8081|8082|8443'
tcp        0      0 0.0.0.0:8081          0.0.0.0:*            LISTEN      2059/nginx: m
aster
tcp6       0      0 :::8080              :::*                  LISTEN      1659/apache2
tcp6       0      0 :::8081              :::*                  LISTEN      2059/nginx: m
aster
tcp6       0      0 :::8082              :::*                  LISTEN      3107/caddy
ubuntu@ip-172-31-78-20:~$

```

Comprobando los localhost de cada uno de los servicios creados:

```
ubuntu@ip-172-31-78-20:~$ curl http://localhost:8080
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN" "http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">
<html xmlns="http://www.w3.org/1999/xhtml">
  <!--
    Modified from the Debian original for Ubuntu
    Last updated: 2022-03-22
    See: https://launchpad.net/bugs/1966004
  -->
  <head>
    <meta http-equiv="Content-Type" content="text/html; charset=UTF-8" />
    <title>Apache2 Ubuntu Default Page: It works</title>
    <style type="text/css" media="screen">
      *
      {
        margin: 0px 0px 0px 0px;
        padding: 0px 0px 0px 0px;
      }

      body, html {
        padding: 3px 3px 3px 3px;

        background-color: #D8DBE2;

        font-family: Ubuntu, Verdana, sans-serif;
        font-size: 11pt;
        text-align: center;
      }

      div.main_page {
        position: relative;
        display: table;

        width: 800px;

        margin-bottom: 3px;
        margin-left: auto;
        margin-right: auto;
        padding: 0px 0px 0px 0px;

        border-width: 2px;
        border-color: #212738;
        border-style: solid;

        background-color: #FFFFFF;

        text-align: center;
      }

      div.page_header {
        height: 180px;
```

```

ubuntu@ip-172-31-78-20:~$ curl http://localhost:8081
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN" "http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">
<html xmlns="http://www.w3.org/1999/xhtml">
  <!--
    Modified from the Debian original for Ubuntu
    Last updated: 2022-03-22
    See: https://launchpad.net/bugs/1966004
  -->
  <head>
    <meta http-equiv="Content-Type" content="text/html; charset=UTF-8" />
    <title>Apache2 Ubuntu Default Page: It works</title>
    <style type="text/css" media="screen">
      * {
        margin: 0px 0px 0px 0px;
        padding: 0px 0px 0px 0px;
      }

      body, html {
        padding: 3px 3px 3px 3px;

        background-color: #D8DBE2;

        font-family: Ubuntu, Verdana, sans-serif;
        font-size: 11pt;
        text-align: center;
      }

      div.main_page {
        position: relative;
        display: table;

        width: 800px;

        margin-bottom: 3px;
        margin-left: auto;
        margin-right: auto;
        padding: 0px 0px 0px 0px;

        border-width: 2px;
        border-color: #212738;
        border-style: solid;

        background-color: #FFFFFF;

        text-align: center;
      }

      div.page_header {
        height: 180px;

```

8081 arriva y 8082 abajo:

```

ubuntu@ip-172-31-78-20:~$ curl http://localhost:8082
<!DOCTYPE html>
<html>
  <head>
    <title></title>
    <link rel="canonical" href="/" />
    <meta charset="utf-8">
    <meta name="color-scheme" content="light dark">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
  <style nonce="04d094c5-e46a-47bd-a33c-78344be2738d">
    * { padding: 0; margin: 0; box-sizing: border-box; }
  </style>
  body {
    font-family: Inter, system-ui, sans-serif;
    font-size: 16px;
    text-rendering: optimizespeed;
    background-color: #f3f6f7;
    min-height: 100vh;
  }
  img,
  svg {
    vertical-align: middle;
    z-index: 1;
  }
  img {
    max-width: 100%;
    max-height: 100%;
    border-radius: 5px;
  }
  td img {
    max-width: 1.5em;
    max-height: 2em;
    object-fit: cover;
  }
  body,
  a,
  svg,
  .layout.current,
  .layout.current svg,
  .go-up {
    color: #333;
    text-decoration: none;
  }

```


Instalando certbot:

```
ubuntu@ip-172-31-78-20: ~  
ubuntu@ip-172-31-78-20:~$ sudo apt install certbot python3-certbot-apache -y  
Reading package lists... Done  
Building dependency tree... Done  
Reading state information... Done  
The following packages were automatically installed and are no longer required:  
  linux-aws-6.14-headers-6.14.0-1016 linux-aws-6.14-tools-6.14.0-1016  
  linux-headers-6.14.0-1016-aws linux-image-6.14.0-1016-aws linux-modules-6.14.0-1016-aws  
  linux-tools-6.14.0-1016-aws  
Use 'sudo apt autoremove' to remove them.  
The following additional packages will be installed:  
  Augeas-lenses libaugeas0 python3-acme python3-augeas python3-certbot  
  python3-configargparse python3-icu python3-josepy python3-parsedatetime python3-rfc3339  
Suggested packages:  
  Augeas-doc python-certbot-doc python3-certbot-nginx Augeas-tools python-acme-doc  
  python-certbot-apache-doc  
The following NEW packages will be installed:  
  Augeas-lenses certbot libaugeas0 python3-acme python3-augeas python3-certbot  
  python3-certbot-apache python3-configargparse python3-icu python3-josepy  
  python3-parsedatetime python3-rfc3339  
0 upgraded, 12 newly installed, 0 to remove and 1 not upgraded.  
Need to get 1657 kB of archives.  
After this operation, 8599 kB of additional disk space will be used.  
Get:1 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble/universe amd64 Augeas-lenses all 1.14.1-1build2 [323 kB]  
Get:2 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble/universe amd64 libaugeas0 amd64 1.14.1-1build2 [166 kB]  
Get:3 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble/universe amd64 python3-josepy all 1.14.0-1 [22.1 kB]  
Get:4 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble/universe amd64 python3-rfc3339 all 1.1-4 [6744 B]  
Get:5 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble/universe amd64 python3-acme all 2.9.0-1 [48.5 kB]  
Get:6 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble/universe amd64 python3-augeas all 0.5.0-1.1 [9124 B]  
Get:7 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble/universe amd64 python3-configargparse all 1.7-1 [31.7 kB]  
Get:8 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble/universe amd64 python3-parsedatetime all 2.6-3 [32.8 kB]  
Get:9 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble/universe amd64 python3-certbot all 2.9.0-1 [267 kB]  
Get:10 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble/universe amd64 certbot all 2.9.0-1 [89.2 kB]  
Get:11 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble/universe amd64 python3-certbot-apache all 2.9.0-1 [128 kB]  
Get:12 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble/main amd64 python3-icu amd64 2.12-1build2 [534 kB]  
Fetched 1657 kB in 0s (21.9 MB/s)  
Preconfiguring packages ...  
Selecting previously unselected package Augeas-lenses.  
(Reading database ... 136061 files and directories currently installed.)  
Preparing to unpack .../00-augeas-lenses_1.14.1-1build2_all.deb ...  
Unpacking Augeas-lenses (1.14.1-1build2) ...  
Selecting previously unselected package libaugeas0:amd64.  
Preparing to unpack .../01-libaugeas0_1.14.1-1build2_amd64.deb ...  
Unpacking libaugeas0:amd64 (1.14.1-1build2) ...  
Selecting previously unselected package python3-josepy.  
Preparing to unpack .../02-python3-josepy_1.14.0-1_all.deb ...  
Unpacking python3-josepy (1.14.0-1) ...  
Selecting previously unselected package python3-rfc3339.  
Preparing to unpack .../03-python3-rfc3339_1.1-4_all.deb ...  
Unpacking python3-rfc3339 (1.1-4) ...
```

```
ubuntu@ip-172-31-78-20: ~  
Selecting previously unselected package python3-augeas.  
Preparing to unpack .../05-python3-augeas_0.5.0-1.1_all.deb ...  
Unpacking python3-augeas (0.5.0-1.1) ...  
Selecting previously unselected package python3-configargparse.  
Preparing to unpack .../06-python3-configargparse_1.7-1_all.deb ...  
Unpacking python3-configargparse (1.7-1) ...  
Selecting previously unselected package python3-parsedatetime.  
Preparing to unpack .../07-python3-parsedatetime_2.6-3_all.deb ...  
Unpacking python3-parsedatetime (2.6-3) ...  
Selecting previously unselected package python3-certbot.  
Preparing to unpack .../08-python3-certbot_2.9.0-1_all.deb ...  
Unpacking python3-certbot (2.9.0-1) ...  
Selecting previously unselected package certbot.  
Preparing to unpack .../09-certbot_2.9.0-1_all.deb ...  
Unpacking certbot (2.9.0-1) ...  
Selecting previously unselected package python3-certbot-apache.  
Preparing to unpack .../10-python3-certbot-apache_2.9.0-1_all.deb ...  
Unpacking python3-certbot-apache (2.9.0-1) ...  
Selecting previously unselected package python3-icu.  
Preparing to unpack .../11-python3-icu_2.12-1build2_amd64.deb ...  
Unpacking python3-icu (2.12-1build2) ...  
Setting up python3-configargparse (1.7-1) ...  
Setting up python3-parsedatetime (2.6-3) ...  
Setting up python3-icu (2.12-1build2) ...  
Setting up Augeas-lenses (1.14.1-1build2) ...  
Setting up libaugeas0:amd64 (1.14.1-1build2) ...  
Setting up python3-josepy (1.14.0-1) ...  
Setting up python3-augeas (0.5.0-1.1) ...  
Setting up python3-rfc3339 (1.1-4) ...  
Setting up python3-acme (2.9.0-1) ...  
Setting up python3-certbot (2.9.0-1) ...  
Setting up certbot (2.9.0-1) ...  
Created symlink /etc/systemd/system/timers.target/wants/certbot.timer → /usr/lib/systemd/system/certbot.timer.  
Setting up python3-certbot-apache (2.9.0-1) ...  
Processing triggers for man-db (2.12.0-4build2) ...  
Processing triggers for libc-bin (2.39-0ubuntu8.6) ...  
Scanning processes...  
Scanning linux images...  
  
Running kernel seems to be up-to-date.  
  
No services need to be restarted.  
  
No containers need to be restarted.  
  
No user sessions are running outdated binaries.  
  
No VM guests are running outdated hypervisor (qemu) binaries on this host.  
ubuntu@ip-172-31-78-20:~$
```

Creando certificado de prueba:

[illegible]

Activacion del modulo SSL:

```
ubuntu@ip-172-31-78-20:~$ sudo a2enmod ssl
Considering dependency mime for ssl:
Module mime already enabled
Considering dependency socache_shmcb for ssl:
Enabling module socache_shmcb.
Enabling module ssl.
See /usr/share/doc/apache2/README.Debian.gz on how to configure SSL and create self-signed certificates.
To activate the new configuration, you need to run:
    systemctl restart apache2
ubuntu@ip-172-31-78-20:~$
```

Cambiando de puertos:

```
ubuntu@ip-172-31-78-20: ~  
GNU nano 7.2 /etc/apache2/ports.conf  
# If you just change the port or add more ports here, you will likely also  
# have to change the VirtualHost statement in  
# /etc/apache2/sites-enabled/000-default.conf  
  
Listen 8080  
  
<IfModule ssl_module>  
    Listen 443  
    Listen 8443  
</IfModule>  
  
<IfModule mod_gnutls.c>  
    Listen 443  
</IfModule>
```

Cambiando el virtualbox de 443 a 8443:

```
ubuntu@ip-172-31-78-20: ~  
GNU nano 7.2 /etc/apache2/sites-available/default-ssl.conf  
<VirtualHost *:8443>  
    ServerAdmin webmaster@localhost  
  
    DocumentRoot /var/www/html  
  
    # Available loglevels: trace8, ..., trace1, debug, info, notice, warn,  
    # error, crit, alert, emerg.  
    # It is also possible to configure the loglevel for particular  
    # modules, e.g.  
    #LogLevel info ssl:warn  
  
    ErrorLog ${APACHE_LOG_DIR}/error.log  
    CustomLog ${APACHE_LOG_DIR}/access.log combined  
  
    # For most configuration files from conf-available/, which are  
    # enabled or disabled at a global level, it is possible to  
    # include a line for only one particular virtual host. For example the  
    # following line enables the CGI configuration for this host only  
    # after it has been globally disabled with "a2disconf".  
    #Include conf-available/serve-cgi-bin.conf  
  
    # SSL Engine Switch:  
    # Enable/Disable SSL for this virtual host.  
    [ Wrote 101 lines ]  
^G Help      ^O Write Out  ^W Where Is   ^K Cut        ^T Execute    ^C Location   M-U Undo  
^X Exit      ^R Read File  ^_ Replace    ^U Paste      ^J Justify    ^_ Go To Line M-E Redo
```

Activando la configuración SSL en Apache:

```
ubuntu@ip-172-31-78-20:~$ sudo a2ensite default-ssl.conf  
Enabling site default-ssl.  
To activate the new configuration, you need to run:  
    systemctl reload apache2  
ubuntu@ip-172-31-78-20:~$
```

Comprobacion final para comprobar el certificado HTTPS:

```
ubuntu@ip-172-31-78-20: ~  
ubuntu@ip-172-31-78-20:~$ curl -i -k https://localhost:8443  
HTTP/1.1 200 OK  
Date: Sat, 13 Dec 2025 16:25:44 GMT  
Server: Apache/2.4.58 (Ubuntu)  
Last-Modified: Tue, 25 Nov 2025 13:48:58 GMT  
ETag: "29af-6446b8aa49c67"  
Accept-Ranges: bytes  
Content-Length: 10671  
Vary: Accept-Encoding  
Content-Type: text/html  
  
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN" "http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">  
<html xmlns="http://www.w3.org/1999/xhtml">  
  <!--  
    Modified from the Debian original for Ubuntu  
    Last updated: 2022-03-22  
    See: https://launchpad.net/bugs/1966004  
  -->  
  <head>  
    <meta http-equiv="Content-Type" content="text/html; charset=UTF-8" />  
    <title>Apache2 Ubuntu Default Page: It works</title>  
    <style type="text/css" media="screen">  
      * {  
        margin: 0px 0px 0px 0px;  
        padding: 0px 0px 0px 0px;  
      }  
  
      body, html {  
        padding: 3px 3px 3px 3px;  
  
        background-color: #D8DBE2;  
  
        font-family: Ubuntu, Verdana, sans-serif;  
        font-size: 11pt;  
        text-align: center;  
      }  
  
      div.main_page {  
        position: relative;  
        display: table;  
  
        width: 800px;  
  
        margin-bottom: 3px;  
        margin-left: auto;  
        margin-right: auto;  
        padding: 0px 0px 0px 0px;  
  
        border-width: 2px;
```

```
      </li>  
    </ul>  
  </div>  
  
  <div class="section_header">  
    <div id="docroot"></div>  
    Document Roots  
  </div>  
  
  <div class="content_section_text">  
    <p>  
      By default, Ubuntu does not allow access through the web browser to  
      <em>any</em> file outside of those located in <tt>/var/www</tt>,  
      <a href="http://httpd.apache.org/docs/2.4/mod/mod_userdir.html" rel="nofollow">public_html</a>,  
      directories (when enabled) and <tt>/usr/share</tt> (for web  
      applications). If your site is using a web document root  
      located elsewhere (such as in <tt>/srv</tt>) you may need to whitelist your  
      document root directory in <tt>/etc/apache2/apache2.conf</tt>.  
    </p>  
    <p>  
      The default Ubuntu document root is <tt>/var/www/html</tt>. You  
      can make your own virtual hosts under /var/www.  
    </p>  
  </div>  
  
  <div class="section_header">  
    <div id="bugs"></div>  
    Reporting Problems  
  </div>  
  <div class="content_section_text">  
    <p>  
      Please use the <tt>ubuntu-bug</tt> tool to report bugs in the  
      Apache2 package with Ubuntu. However, check <a  
      href="https://bugs.launchpad.net/ubuntu/+source/apache2"  
      rel="nofollow">existing bug reports</a> before reporting a new bug.  
    </p>  
    <p>  
      Please report bugs specific to modules (such as PHP and others)  
      to their respective packages, not to the web server itself.  
    </p>  
  </div>  
</div>  
</div>  
<div class="validator">  
</div>  
</body>  
</html>  
ubuntu@ip-172-31-78-20:~$
```

