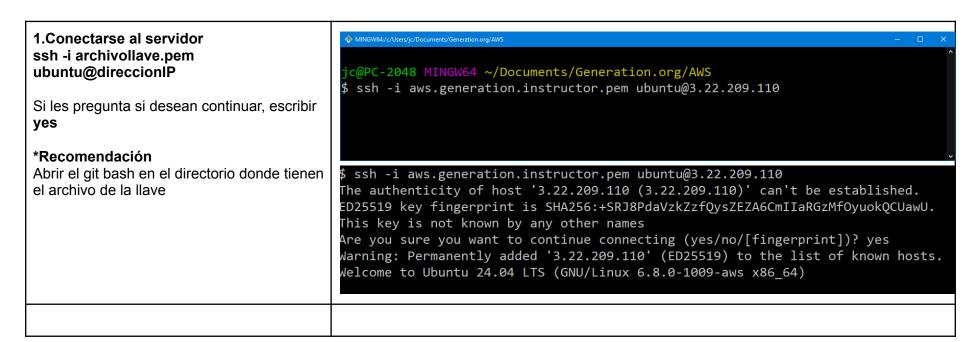
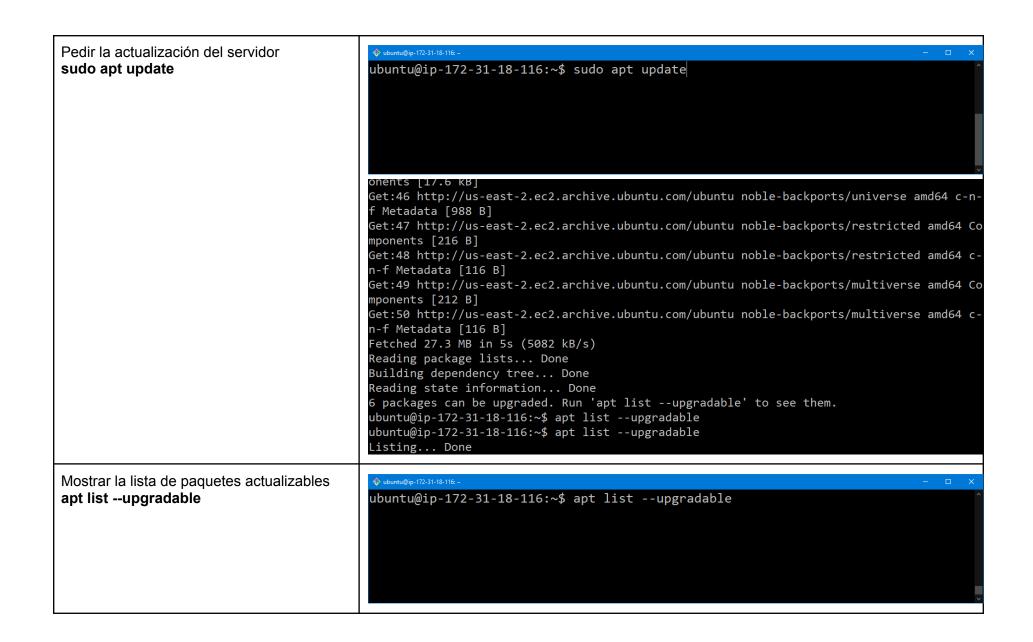
Deploy en AWS

Requisitos:

- 1. IP Pública del servidor
- 2. Archivo de la Llave SSH





ubuntu@ip-172-31-18-116:~\$ apt list --upgradable Listing... Done linux-aws/noble-updates,noble-security 6.8.0-1010.10 amd64 [upgradable from: 6.8 .0-1009.97 linux-headers-aws/noble-updates, noble-security 6.8.0-1010.10 amd64 [upgradable f rom: 6.8.0-1009.9] linux-image-aws/noble-updates,noble-security 6.8.0-1010.10 amd64 [upgradable fro m: 6.8.0-1009.9] openssh-client/noble-security 1:9.6p1-3ubuntu13.4 amd64 [upgradable from: 1:9.6p 1-3ubuntu13.3] openssh-server/noble-security 1:9.6p1-3ubuntu13.4 amd64 [upgradable from: 1:9.6p 1-3ubuntu13.3] openssh-sftp-server/noble-security 1:9.6p1-3ubuntu13.4 amd64 [upgradable from: 1 :9.6p1-3ubuntu13.3] Actualizar el sistema sudo apt upgrade ♦ ubuntu@ip-172-31-18-116: ~ ubuntu@ip-172-31-18-116:~\$ sudo apt upgrade En caso de preguntar si deseas actualizar escribimos Y

```
ubuntu@ip-172-31-18-116:~$ sudo apt upgrade
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
Calculating upgrade... Done
The following NEW packages will be installed:
 linux-aws-headers-6.8.0-1010 linux-aws-tools-6.8.0-1010 linux-headers-6.8.0-1010-aws
 linux-image-6.8.0-1010-aws linux-modules-6.8.0-1010-aws linux-tools-6.8.0-1010-aws
The following packages will be upgraded:
 linux-aws linux-headers-aws linux-image-aws openssh-client openssh-server
 openssh-sftp-server
6 upgraded, 6 newly installed, 0 to remove and 0 not upgraded.
6 standard LTS security updates
Need to get 73.7 MB of archives.
After this operation, 182 MB of additional disk space will be used.
Do you want to continue? [Y/n] Y
Restarting the system to load the new kernel will not be handled automatically, so you
should consider rebooting.
No services need to be restarted.
No containers need to be restarted.
User sessions running outdated binaries:
 ubuntu @ session #3: sshd[1006]
No VM guests are running outdated hypervisor (qemu) binaries on this host.
ubuntu@ip-172-31-18-116:~$
```

Instalación de MySQL/MariaDB

Verificar si existe el servicio de mysql sudo service mysql status

En caso de no encontrar el servicio se debe instalar

ubuntu@ip-172-31-18-116:~\$ sudo service mysql status
Unit mysql.service could not be found.
ubuntu@ip-172-31-18-116:~\$ |

sudo apt install mariadb-server

En caso de preguntar por la instalación escribir **Y**

ubuntu@ip-172-31-18-116: ~

ubuntu@ip-172-31-18-116:~\$ sudo apt install mariadb-server

galera-4 libcgi-fast-perl libcgi-pm-perl libclone-perl libconfig-inifiles-perl libdbd-mysql-perl libdbi-perl libencode-locale-perl libfcgi-bin libfcgi-perl libfcgi0t64 libhtml-parser-perl libhtml-tagset-perl libhtml-template-perl libhttp-date-perl libhttp-message-perl libio-html-perl liblwp-mediatypes-perl libmariadb3 libmysqlclient21 libsnappy1v5 libtimedate-perl liburi-perl liburin mariadb-client mariadb-client-core mariadb-common mariadb-plugin-provider-bzip mariadb-plugin-provider-lz4 mariadb-plugin-provider-lzma mariadb-plugin-provid mariadb-plugin-provider-snappy mariadb-server mariadb-server-core mysql-common socat

0 upgraded, 37 newly installed, 0 to remove and 0 not upgraded.

Need to get 19.0 MB of archives.

After this operation, 197 MB of additional disk space will be used.

Do you want to continue? [Y/n] Y

sudo service mysql status ubuntu@ip-172-31-18-116:~\$ sudo service mysql status mariadb.service - MariaDB 10.11.8 database server Loaded: loaded (/usr/lib/systemd/system/mariadb.service; enabled; preset: enabled) Active: active (running) since Tue 2024-07-09 17:36:59 UTC; 57s ago Docs: man:mariadbd(8) https://mariadb.com/kb/en/library/systemd/ Main PID: 6997 (mariadbd) Status: "Taking your SQL requests now..." Tasks: 12 (limit: 7463) Memory: 79.1M (peak: 82.1M) *Nota: Si se abre un entorno como el del CPU: 435ms comando less, usar q para salir CGroup: /system.slice/mariadb.service └─6997 /usr/sbin/mariadbd Jul 09 17:36:59 ip-172-31-18-116 mariadbd[6997]: 2024-07-09 17:36:59 0 [Note] InnoDB: Loa> Jul 09 17:36:59 ip-172-31-18-116 mariadbd[6997]: 2024-07-09 17:36:59 0 [Note] Plugin 'FEE Jul 09 17:36:59 ip-172-31-18-116 mariadbd[6997]: 2024-07-09 17:36:59 0 [Warning] You need> Jul 09 17:36:59 ip-172-31-18-116 mariadbd[6997]: 2024-07-09 17:36:59 0 [Note] Server sock> Jul 09 17:36:59 ip-172-31-18-116 mariadbd[6997]: 2024-07-09 17:36:59 0 [Note] InnoDB: Buf Jul 09 17:36:59 ip-172-31-18-116 mariadbd[6997]: 2024-07-09 17:36:59 0 [Note] /usr/sbin/m> Jul 09 17:36:59 ip-172-31-18-116 mariadbd[6997]: Version: '10.11.8-MariaDB-0ubuntu0.24.04<mark>></mark> Jul 09 17:36:59 ip-172-31-18-116 systemd[1]: Started mariadb.service - MariaDB 10.11.8 da Jul 09 17:36:59 ip-172-31-18-116 /etc/mysql/debian-start[7014]: Upgrading MariaDB tables Jul 09 17:36:59 ip-172-31-18-116 /etc/mysql/debian-start[7029]: Triggering myisam-recover> lines 1-23/23 (END)

Para verificar la conexión utilizar ubuntu@ip-172-31-18-116:~\$ sudo mysql sudo mysql Welcome to the MariaDB monitor. Commands end with ; or \g . Your MariaDB connection id is 31 Server version: 10.11.8-MariaDB-0ubuntu0.24.04.1 Ubuntu 24.04 Copyright (c) 2000, 2018, Oracle, MariaDB Corporation Ab and others. Type 'help;' or '\h' for help. Type '\c' to clear the current input statement. MariaDB [(none)]> Crear la base de datos ch47ecommerce MariaDB [(none)]> CREATE DATABASE ch47ecommerce; **CREATE DATABASE ch47ecommerce**; Query OK, 1 row affected (0.000 sec) Validar que la base de creó correctamente: MariaDB [(none)]> SHOW DATABASES; **SHOW DATABASES:** Database ch47ecommerce information_schema mysql performance schema 5 rows in set (0.000 sec) MariaDB [(none)]>

Crear el usuario:

CREATE USER 'ch47admin'@'%' IDENTIFIED BY 'Pa\$\$w0rd';

Otorgar permisos al usuario sobre la base de datos:

GRANT ALL PRIVILEGES ON ch47ecommerce.* TO 'ch47admin'@'%';

Refrescar los permisos:

FLUSH PRIVILEGES;

Validar que el usuario se creó: SELECT user FROM mysql.user;

Validar permisos del usuario creado en el paso anterior

SHOW GRANTS FOR 'ch47admin'@'%';

Usar el comando <u>exit</u> para salir de MySQL

Instalación de java

java -version

```
wbuntu@ip-172-31-18-116:~$ java -version

Command 'java' not found, but can be installed with:

sudo apt install default-jre  # version 2:1.17-75, or

sudo apt install openjdk-17-jre-headless  # version 17.0.10~6ea-1

sudo apt install openjdk-8-jre-headless  # version 8u412-ga-1~24.04.2

sudo apt install openjdk-11-jre-headless  # version 11.0.21+9-0ubuntu1

sudo apt install openjdk-19-jre-headless  # version 19.0.2+7-4

sudo apt install openjdk-20-jre-headless  # version 20.0.2+9-1

sudo apt install openjdk-21-jre-headless  # version 21.0.1+12-3

sudo apt install openjdk-22-jre-headless  # version 22~22ea-1

ubuntu@ip-172-31-18-116:~$
```

En el caso de no tener instalado java, ubuntu@ip-172-31-18-116:~\$ sudo apt install openjdk-17-jdk ejecutar la instalación: libjbig@ libjpeg-turbo8 libjpeg8 liblcms2-2 liblerc4 libllvm17t64 libpango-1.0-0 sudo apt install openjdk-17-jdk libpangocairo-1.0-0 libpangoft2-1.0-0 libpciaccess0 libpcsclite1 libpixman-1-0 libpthread-stubs0-dev librsvg2-2 librsvg2-common libsharpyuv0 libsm-dev libsm6 libthai-data libthai0 libtiff6 libvulkan1 libwayland-client0 libwebp7 libx11-dev libx11-xcb1 libxau-dev libxaw7 libxcb-dri2-0 libxcb-dri3-0 libxcb-glx0 libxcb-present0 libxcb-randr0 libxcb-render0 libxcb-shape0 libxcb-shm0 libxcb-sync1 libxcb-xfixes0 libxcb1-dev libxcomposite1 libxcursor1 libxdamage1 libxdmcp-dev libxfixes3 libxft2 En caso de preguntar por la instalación libxi6 libxinerama1 libxkbfile1 libxmu6 libxpm4 libxrandr2 libxrender1 libxshmfence1 escribir Y libxt-dev libxt6t64 libxtst6 libxv1 libxxf86dga1 libxxf86vm1 mesa-vulkan-drivers openjdk-17-jdk openjdk-17-jdk-headless openjdk-17-jre openjdk-17-jre-headless session-migration ubuntu-mono x11-common x11-utils x11proto-dev xorg-sgml-doctools xtrans-dev 0 upgraded, 130 newly installed, 0 to remove and 0 not upgraded. Need to get 188 MB of archives. After this operation, 593 MB of additional disk space will be used. Do you want to continue? [Y/n] Y Validar que se instaló correctamente con: ubuntu@ip-172-31-23-58: ~ ubuntu@ip-172-31-23-58:~\$ java -version openjdk version "17.0.12" 2024-07-16 iava -version OpenJDK Runtime Environment (build 17.0.12+7-Ubuntu-1ubuntu224.04) OpenJDK 64-Bit Server VM (build 17.0.12+7-Ubuntu-1ubuntu224.04, mixed mode, shar ing) ubuntu@ip-172-31-23-58:~\$

Modificar el application.properties para que 1spring.application.name=ecommerce 2#Información para conectarse al servidor tenga variables de entorno en lugar de 3 spring.datasource.url=jdbc:mysql://\${PROD DB HOST}:3306/\${PROD DB NAME} valores 4spring.datasource.username=\${PROD DB USERNAME} 5 spring.datasource.password=\${PROD DB PASSWORD} 7#create, create-drop, validate, update 8 spring.jpa.hibernate.ddl-auto=\${PROD DDL} Subir el archivo jar de la aplicación 🖳 Problems 🍭 Javadoc 📵 Declaration 🔗 Search 📮 Console ج Progress 곋 Tasks 🧩 Gradle Tasks 🗙 ecommerce (build/libs/ecommerce-0.0.1-SNAPSHOT.jar) Name Description ecommerce > 🌽 application Generar el jar con doble click en: build Gradle Task-> ecommerce -> build -> assemble Assembles the outputs of this project. build Builds an OCI image of the application using the output of the bootJar ta... bootBuildImage Assembles an executable jar archive containing the main classes and the... bootJar bootJarMainClassName Resolves the name of the application's main class for the bootJar task. bootRunMainClassNam Resolves the name of the application's main class for the bootRun task. build Assembles and tests this project. buildDependents Assembles and tests this project and all projects that depend on it. Assembles and tests this project and all projects it depends on. buildNeeded Assembles main classes. classes clean Deletes the build directory. Assembles a jar archive containing the classes of the 'main' feature. 🌼 jar Assembles test classes. testClasses build setup > 🌽 documentation > 🃂 help

Buscar y renombra el archivo por app.jar .org\CH45\Ejercicios\workspace\ecommerce\build\libs ation.org > CH45 > Ejercicios > workspace > ecommerce > build > libs ত ১ Size Туре Name Date modified 44,548 KB ecommerce-0.0.1-SNAPSHOT.jar 15/10/2024 12:10 p. m. ecommerce-0.0.1-SNAPSHOT-plain.jar 15/10/2024 12:10 p. m. 3,647 KB Executable Jar File Salir de la conexión del servidor con: MINGW64:/c/Users/jc/Documents/Generation.org/AWS exit jc@PC-2048 MINGW64 ~/Documents/Generation.org/AWS \$ scp -i aws.generation.instructor.pem app.jar ubuntu@18.218.189.127:app.jar Copiar a la ruta de las llaves el archivo app.jar 0% 0.0KB/s --:-- ETA app.jar Subir el archivo al servidor: scp -i archivollave.pem app.jar ubuntu@direccionIP:app.jar Volverse a conectar y validar que el archivo existe con un Is -al

```
ubuntu@ip-172-31-23-58: ~
                                         ubuntu@ip-172-31-23-58:~$ ls -al
                                         total 44580
                                         drwxr-x--- 4 ubuntu ubuntu
                                                                        4096 Oct 15 18:15 .
                                                                        4096 Oct 15 15:37 ...
                                         drwxr-xr-x 3 root root
                                                                          60 Oct 15 16:12 .bash history
                                         -rw----- 1 ubuntu ubuntu
                                         -rw-r--r-- 1 ubuntu ubuntu
                                                                        220 Mar 31 2024 .bash logout
                                         -rw-r--r-- 1 ubuntu ubuntu
                                                                        3771 Mar 31 2024 .bashrc
                                         drwx----- 2 ubuntu ubuntu
                                                                        4096 Oct 15 16:10 .cache
                                         -rw-r--r-- 1 ubuntu ubuntu
                                                                        807 Mar 31 2024 .profile
                                         drwx----- 2 ubuntu ubuntu
                                                                        4096 Oct 15 15:37 .ssh
                                         -rw-r--r-- 1 ubuntu ubuntu
                                                                           0 Oct 15 16:10 .sudo as admin successful
                                         -rw-r--r-- 1 ubuntu ubuntu 45616635 Oct 15 18:15 app.jar
                                         ubuntu@ip-172-31-23-58:~$
                                        [Unit]
archivo ecommerce.service
                                        Description=Spring Boot App
                                        After=syslog.target
                                        [Service]
                                        User=ubuntu
                                        ExecStart=java -jar /home/ubuntu/src/app.jar
                                        Environment="PROD DB HOST=localhost"
                                        Environment="PROD DB NAME=ch47ecommerce"
                                        Environment="PROD DB USERNAME=ch47admin"
                                        Environment="PROD DB PASSWORD=Pa$$w0rd"
                                        Environment="PROD_DDL=update"
                                        SuccessExitStatus=143
                                        [Install]
                                        WantedBy=multi-user.target
```

Subir el archivo ecommerce.service con el drwx----- 2 ubuntu ubuntu 4096 Oct 15 15:37 .ssh comando 0 Oct 15 16:10 .sudo_as_admin_successful -rw-r--r-- 1 ubuntu ubuntu scp -i archivollave.pem -rw-r--r-- 1 ubuntu ubuntu 45616635 Oct 15 18:15 app.jar ecommerce.service ubuntu@ip-172-31-23-58:~\$ exit ubuntu@direccionIP:ecommerce.service logout Connection to 18.218.189.127 closed. jc@PC-2048 MINGW64 ~/Documents/Generation.org/AWS \$ scp -i aws.generation.instructor.pem ecommerce.service ubuntu@18.218.189.127:ecommerce .service ecommerce.service 100% 388 5.6KB/s 00:00 jc@PC-2048 MINGW64 ~/Documents/Generation.org/AWS Volver a conectarse al servidor (como en el ubuntu@ip-172-31-23-58:~\$ mkdir src paso 1) ubuntu@ip-172-31-23-58:~\$ mv app.jar src/ Mover el archivo app.jar al directorio src ubuntu@ip-172-31-23-58:~\$

Volver a conectarse al servidor y validar que el archivo existe.

cat ecommerce.service

```
ubuntu@ip-172-31-13-120:~$ cat ecommerce.service
[Unit]
Description=Spring Boot App
After=syslog.target
[Service]
User=ubuntu
ExecStart=java -jar /home/ubuntu/src/app.jar
Environment="PROD_DB_HOST=localhost"
Environment="PROD_DB_NAME=ch47ecommerce"
Environment="PROD DB USERNAME=ch47admin"
Environment="PROD_DB_PASSWORD=Pa$$w0rd"
Environment="PROD DDL=update"
SuccessExitStatus=143
[Install]
WantedBy=multi-user.target
```

Copiar el ecommerce.service en los 💠 ubuntu@ip-172-31-18-116: ~ servicios del servidor. ubuntu@ip-172-31-18-116:~\$ sudo cp ecommerce.service /etc/systemd/system/ ubuntu@ip-172-31-18-116:~\$ sudo cp ecommerce.service /etc/systemd/system/ Validar el estado del servicio se utiliza: ubuntu@ip-172-31-18-116:~\$ sudo service ecommerce status o ecommerce.service - Spring Boot App sudo service ecommerce status Loaded: loaded (/etc/systemd/system/ecommerce.service; disabled; preset: enabled) Active: inactive (dead) ubuntu@ip-172-31-18-116:~\$ Si muestra una pantalla completa con información, nos podemos salir presionando la tecla q

Para habilitar el servicio y que inicie cuando ubuntu@ip-172-31-18-116:~\$ sudo systemctl enable ecommerce el sistema operativo inicia, se utiliza el Created symlink /etc/systemd/system/multi-user.target.wants/ecommerce.service → /etc/s comando: ystemd/system/ecommerce.service. ubuntu@ip-172-31-18-116:~\$ sudo systemctl enable ecommerce Iniciar el servicio: ubuntu@ip-172-31-18-116:~\$ sudo service ecommerce start sudo service ecommerce start

Validar que el servicio responde:

curl http://localhost:8080/api/productos/

Si el servicio no responde, se puede revisar el log del servicio con el comando:

sudo journalcti -u ecommerce.service

Si muestra mucho contenido pueden usar la tecla q para salir.

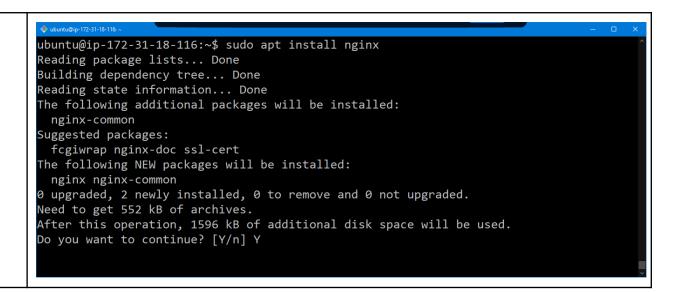
Tecla G para ir al final

Tecla g para ir al principio

Instalar el servidor nginx (proxy) para mapear el puerto 80 al puerto 8080

sudo apt install nginx

Presionar la **Y** para continuar con la instalación

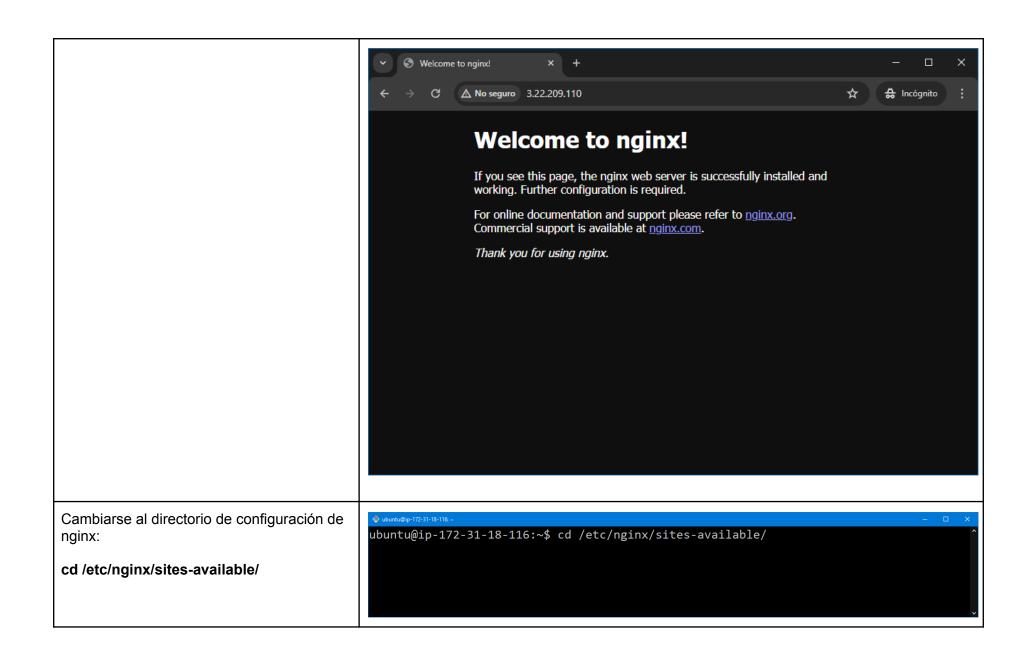


Validar que el servicio nginx está levantado:

sudo service nginx status

También se puede validar con la dirección ip en el navegador y veremos la página default de nginx.

```
ubuntu@ip-172-31-18-116:~$ sudo service nginx status
• 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 Tue 2024-07-09 21:35:24 UTC; 43s ago
      Docs: man:nginx(8)
   Process: 2351 ExecStartPre=/usr/sbin/nginx -t -q -g daemon on; master_process on; (c)
   Process: 2353 ExecStart=/usr/sbin/nginx -g daemon on; master process on; (code=exite)
   Main PID: 2354 (nginx)
     Tasks: 2 (limit: 1130)
    Memory: 1.7M (peak: 1.9M)
        CPU: 12ms
    CGroup: /system.slice/nginx.service
             ├─2354 "nginx: master process /usr/sbin/nginx -g daemon on; master_process >
             └_2355 "nginx: worker process"
Jul 09 21:35:24 ip-172-31-18-116 systemd[1]: Starting nginx.service - A high performance
Jul 09 21:35:24 ip-172-31-18-116 systemd[1]: Started nginx.service - A high performance >
lines 1-16/16 (END)
```



Crear archivo de configuración: ubuntu@ip-172-31-13-120: /etc/nginx/sites-available ubuntu@ip-172-31-13-120:/etc/nginx/sites-available\$ sudo nano app sudo nano app Pegar la siguiente información # This configuration effectively sets up a reverse proxy # server on port 80 that forwards incoming requests to a Cambiar el localhost de server_name por la # backend server running on localhost:8080 dirección ip del servidor server { listen 80; listen [::]:80; server_name localhost; location / { proxy pass http://localhost:8080; proxy_set_header Host \$host; proxy set header X-Real-IP \$remote addr; proxy set header X-Forwarded-For \$proxy add x forwarded for; proxy_set_header X-Forwarded-Proto \$scheme;

```
# This configuration effectively sets up a reverse proxy
                                               # server on port 80 that forwards incoming requests to a
                                               # backend server running on localhost:8080
                                               server {
                                                     listen
                                                                   80;
                                                                  [::]:80;
                                                     listen
                                                     server name 3.22.209.110;
                                                  location / {
                                                     proxy_pass http://localhost:8080;
                                                     proxy_set_header Host $host;
                                                     proxy_set_header X-Real-IP $remote_addr;
                                                     proxy_set_header X-Forwarded-For $proxy_add_x_forwarded for;
                                                     proxy_set_header X-Forwarded-Proto $scheme;
                                               "sites-enabled/app" 18L, 518B written
                                                                                                                        18,1
                                                                                                                                       All
Crear el enlace en los sitios habilitados:
                                                ubuntu@ip-172-31-18-116: /etc/nginx/sites-available
                                               ubuntu@ip-172-31-18-116:/etc/nginx/sites-available$ sudo ln -s /etc/nginx/sites-availa^
                                               /app /etc/nginx/sites-enabled/
sudo In -s /etc/nginx/sites-available/app
                                               ubuntu@ip-172-31-18-116:/etc/nginx/sites-available$
/etc/nginx/sites-enabled/
```

Cambiar la configuración principal de nginx: sudo nano /etc/nginx/nginx.conf

**Control of the sudo nano /etc/nginx/nginx.conf*

**Control of the sudo nano /e

En la sección http verificar que se gzip on; 46 encuentre la línea 60, si no se encuentra se 47 debe agregar después de la línea: 48 # gzip_vary on; include /etc/nginx/conf.d/*.conf; 49 # gzip proxied any; 50 # gzip comp level 6; 51 # gzip_buffers 16 8k; 52 # gzip http version 1.1; include /etc/nginx/sites-enabled/*; 53 # gzip types text/plain text/css application/json application/javascript text /xml application/xml application/xml+rss text/javascript; 55 # Virtual Host Configs 57 58 include /etc/nginx/conf.d/*.conf; include /etc/nginx/sites-enabled/*; 61 } 64 #mail { 65 # # See sample authentication script at: # http://wiki.nginx.org/ImapAuthenticateWithApachePhpScript 66 # 60,1-8 72% Para validar la sintaxis de las ubuntu@ip-172-31-18-116:/etc/nginx\$ sudo nginx -t configuraciones de nginx utilizamos: nginx: the configuration file /etc/nginx/nginx.conf syntax is ok nginx: configuration file /etc/nginx/nginx.conf test is successful sudo nginx -t ubuntu@ip-172-31-18-116:/etc/nginx\$

