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# Práctica Guiada DAW2  Instalación de Apache Tomcat en AWS EC2 (Linux)
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## 1. Datos de la instancia EC2

- AMI utilizada: Ubuntu Server 24.04

- Tipo de instancia: t3.micro

- IP pública: 44.223.68.79

- Clave (.pem): Las claves utilizadas en todas mis instancias "claveAWS.pem"

- Puertos abiertos: 22(SSH), 8080(TCP)

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## 2. Conexión por SSH

Comando utilizado:

```
ssh -i "D:\Usuarios\daw214\Downloads\claveAWS.pem" ubuntu@100.48.105.167
```

```
PS C:\WINDOWS\system32> ssh -i "D:\Usuarios\daw214\Downloads\claveAWS.pem" ubuntu@100.48.105.167
The authenticity of host '100.48.105.167 (100.48.105.167)' can't be established.
ED25519 key fingerprint is SHA256:jEAuZ17FqZPitKehlhsDrTKeSCLJ/yPTExysXCBq49M.
This key is not known by any other names.
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
Warning: Permanently added '100.48.105.167' (ED25519) to the list of known hosts.
Welcome to Ubuntu 24.04.3 LTS (GNU/Linux 6.14.0-1015-aws x86_64)

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

 System information as of Fri Dec 12 15:50:14 UTC 2025

  System load:  0.0               Temperature:           -273.1 C
  Usage of /:   25.8% of 6.71GB   Processes:             111
  Memory usage: 22%               Users logged in:       0
  Swap usage:   0%                IPv4 address for ens5: 172.31.68.127

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


The list of available updates is more than a week old.
To check for new updates run: sudo apt update


The programs included with the Ubuntu system are free software;
the exact distribution terms for each program are described in the
individual files in /usr/share/doc/*/copyright.

Ubuntu comes with ABSOLUTELY NO WARRANTY, to the extent permitted by
applicable law.

To run a command as administrator (user "root"), use "sudo <command>".
See "man sudo_root" for details.

ubuntu@ip-172-31-68-127:~$
```

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## 3. Actualización de paquetes

Comando:

```
sudo apt update
```

```
ubuntu@ip-172-31-68-127:~$ sudo apt update
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/universe amd64 Packages [15.0 MB]
Get:6 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble/universe Translation-en [5982 kB]
Get:7 http://security.ubuntu.com/ubuntu noble-security/main amd64 Packages [1378 kB]
Get:8 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble/universe amd64 Components [3871 kB]
Get:9 http://security.ubuntu.com/ubuntu noble-security/main Translation-en [224 kB]
Get:10 http://security.ubuntu.com/ubuntu noble-security/main amd64 Components [21.6 kB]
Get:11 http://security.ubuntu.com/ubuntu noble-security/main amd64 c-n-f Metadata [9488 B]
Get:12 http://security.ubuntu.com/ubuntu noble-security/universe amd64 Packages [916 kB]
Get:13 http://security.ubuntu.com/ubuntu noble-security/universe Translation-en [207 kB]
Get:14 http://security.ubuntu.com/ubuntu noble-security/universe amd64 Components [71.4 kB]
Get:15 http://security.ubuntu.com/ubuntu noble-security/universe amd64 c-n-f Metadata [19.4 kB]
Get:16 http://security.ubuntu.com/ubuntu noble-security/restricted amd64 Packages [2266 kB]
Get:17 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble/universe amd64 c-n-f Metadata [301 kB]
Get:18 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble/multiverse amd64 Packages [269 kB]
Get:19 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble/multiverse Translation-en [118 kB]
Get:20 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble/multiverse amd64 Components [35.0 kB]
Get:21 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble/multiverse amd64 c-n-f Metadata [8328 B]
Get:22 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-updates/main amd64 Packages [1675 kB]
```

Comando:

```
sudo apt upgrade
```

```
ubuntu@ip-172-31-68-127:~$ 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-6.14-headers-6.14.0-1018 linux-aws-6.14-tools-6.14.0-1018 linux-headers-6.14.0-1018-aws
  linux-image-6.14.0-1018-aws linux-modules-6.14.0-1018-aws linux-tools-6.14.0-1018-aws
The following upgrades have been deferred due to phasing:
  dhcpcd-base
The following packages will be upgraded:
  apparmor bind9-dnsutils bind9-host bind9-libs gir1.2-glib-2.0 gir1.2-packagekitglib-1.0 intel-microcode
  landscape-common libapparmor1 libdrm-common libdrm2 libglib2.0-0t64 libglib2.0-bin libglib2.0-data libnetplan1
  libpackagekit-glib2-18 libpng16-16t64 libpython3-stdlib libpython3.12-minimal libpython3.12-stdlib libpython3.12t64
  libssh-4 libxml2 linux-aws linux-headers-aws linux-image-aws linux-tools-common netplan-generator netplan.io
  packagekit packagekit-tools python-apt-common python3 python3-apt python3-minimal python3-netplan python3-urllib3
  python3.12 python3.12-minimal snapd ubuntu-pro-client ubuntu-pro-client-l10n
42 upgraded, 6 newly installed, 0 to remove and 1 not upgraded.
```

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## 5. Instalacion de JDK

sudo apt install default-jdk

```
ubuntu@ip-172-31-68-127:~$ sudo apt install default-jdk
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following additional packages will be installed:
  adwaita-icon-theme alsa-topology-conf alsa-ucm-conf at-spi2-common at-spi2-core ca-certificates-java
  dconf-gsettings-backend dconf-service default-jdk-headless default-jre default-jre-headless fontconfig
  fontconfig-config fonts-dejavu-core fonts-dejavu-extra fonts-dejavu-mono gsettings-desktop-schemas
  gtk-update-icon-cache hicolor-icon-theme humanity-icon-theme java-common libasound2-data libasound2t64
  libatk-bridge2.0-0t64 libatk-wrapper-java libatk-wrapper-java-jni libatk1.0-0t64 libatspi2.0-0t64 libavahi-client3
  libavahi-common-data libavahi-common3 libcairo-gobject2 libcairo2 libcolord2 libcups2t64 libdatrie1 libdconf1
  libdeflate0 libdrm-amdgpu1 libdrm-intel1 libepoxy0 libfontconfig1 libgbm1 libgdk-pixbuf-2.0-0 libgdk-pixbuf2.0-bin
  libgdk-pixbuf2.0-common libgif7 libgl1 libgl1-mesa-dri libglvnd0 libglx-mesa0 libglx0 libgraphite2-3 libgtk-3-0t64
  libgtk-3-bin libgtk-3-common libharfbuzz0b libice-dev libice6 libjbig0 libjpeg-turbo8 libjpeg8 liblcms2-2 liblerc4
  libllvm20 libpango-1.0-0 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 libwayland-cursor0 libwayland-egl1 libwayland-server0 libwebp7 libx11-dev libx11-xcb1
  libxau-dev libxaw7 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
  libxi6 libxinerama1 libxkbfile1 libxmu6 libxpm4 libxrandr2 libxrender1 libxshmfence1 libxt-dev libxt6t64 libxtst6
  libxv1 libxxf86dga1 libxxf86vm1 mesa-libgallium mesa-vulkan-drivers openjdk-21-jdk openjdk-21-jdk-headless
  openjdk-21-jre openjdk-21-jre-headless session-migration ubuntu-mono x11-common x11-utils x11proto-dev
```

## 6. Configuración de Usuario y Directorios

el grupo y el usuario tomcat:

Sudo groupadd tomcat

```
ubuntu@ip-172-31-68-127:~$ sudo groupadd tomcat
```

sudo useradd -M -s /bin/false -g tomcat tomcat

```
ubuntu@ip-172-31-18-119:~$ sudo useradd -M -s /bin/false -g tomcat tomcat
```

Crear el directorio de instalación:

Sudo mkdir /opt/tomcat

```
ubuntu@ip-172-31-68-127:~$ sudo mkdir /opt/tomcat
```

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## 7. Instalo TomCat

```
 wget https://dlcdn.apache.org/tomcat/tomcat-9/v9.0.113/bin/apache-tomcat-
9.0.113.tar.gz
```

```
ubuntu@ip-172-31-18-119:/tmp$ wget https://dlcdn.apache.org/tomcat/tomcat-9/v9.0.113/bin/apache-tomcat
-9.0.113.tar.gz
--2025-12-16 14:17:41--  https://dlcdn.apache.org/tomcat/tomcat-9/v9.0.113/bin/apache-tomcat-9.0.113.t
ar.gz
Resolving dlcdn.apache.org (dlcdn.apache.org)... 151.101.2.132, 2a04:4e42::644
Connecting to dlcdn.apache.org (dlcdn.apache.org)|151.101.2.132|:443... connected.
HTTP request sent, awaiting response... 200 OK
Length: 13049663 (12M) [application/x-gzip]
Saving to: 'apache-tomcat-9.0.113.tar.gz'

apache-tomcat-9.0.113.tar 100%[===================================>]  12.44M  --.-KB/s    in 0.03s

2025-12-16 14:17:42 (366 MB/s) - 'apache-tomcat-9.0.113.tar.gz' saved [13049663/13049663]
```

```
sudo tar xvzf apache-tomcat-9.0.113.tar.gz -C /opt/tomcat --strip-components=1
```

```
ubuntu@ip-172-31-18-119:/tmp$ sudo mkdir -p /opt/tomcat
ubuntu@ip-172-31-18-119:/tmp$ sudo tar xvzf apache-tomcat-9.0.113.tar.gz -C /opt/tomcat --strip-compon
ents=1
apache-tomcat-9.0.113/conf/
apache-tomcat-9.0.113/conf/catalina.policy
apache-tomcat-9.0.113/conf/catalina.properties
apache-tomcat-9.0.113/conf/context.xml
apache-tomcat-9.0.113/conf/jaspic-providers.xml
apache-tomcat-9.0.113/conf/jaspic-providers.xsd
apache-tomcat-9.0.113/conf/logging.properties
apache-tomcat-9.0.113/conf/server.xml
apache-tomcat-9.0.113/conf/tomcat-users.xml
apache-tomcat-9.0.113/conf/tomcat-users.xsd
apache-tomcat-9.0.113/conf/web.xml
apache-tomcat-9.0.113/bin/
apache-tomcat-9.0.113/lib/
apache-tomcat-9.0.113/logs/
apache-tomcat-9.0.113/temp/
apache-tomcat-9.0.113/webapps/
```

Le damos permisos

```
Cd /opt/tomcat
```

```
ubuntu@ip-172-31-18-119:/tmp$ cd /opt/tomcat
sudo chgrp -R tomcat /opt/tomcat
sudo chmod -R g+r conf
sudo chmod -R g+x conf
sudo chown -R tomcat webapps/ work/ temp/ logs/
```

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Sudo nano /etc/system/system/tomcat.service



Añadimos la configuracion



Compruebo el estado y le reinicio

Sudo systemctl daemon-reload

Sudo systemctl restart tomcat

Sudo systemctl status tomcat

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Y compruebo que funciona en el navegador

http://44.223.68.79:8080