

PRACTICA

3x03 - Instalación de OpenCMS en
servidor AWS Debian 12 (NUBE)

REALIZADO POR:

AHMED HASSAN KHAMIS



1-Instalación

Para este paso primero creare una nueva instancia.

The screenshot shows the AWS Management Console EC2 Instances page. A single instance is listed:

- Name:** SERVIDOR(LINUX)
- ID de la instancia:** i-0d04601a5dc7d45cf
- Estado de la instancia:** Pendiente
- Tipo de instancia:** t2.micro
- DNS de IPv4 pública:** ec2-3-80-21-13.compute-1.amazonaws.com

Luego sigo los requisitos de opencms que son los siguientes: Java, Apache Tomcat, Maria o Mysql, sus archivos.

The screenshot shows a GitHub repository page for the 'opencms-core' branch. The 'INSTALL.md' file is open, displaying the following content:

Installing OpenCms

This guide provides step by step information on how to install OpenCms using Tomcat and MariaDB/MySQL.

- Install Java
- Install Tomcat
- Install MariaDB/MySQL
- Download and deploy the opencms.war file
- Follow the setup wizard
- Login to the OpenCms workplace
- Security settings

Install Java

OpenCms supports Java 8 and Java 11 LTS.

Download and install Java, e.g., from one of the following repositories:

- OpenJDK
- Oracle

You must install a Java JDK (Java Development Kit), not a JRE (Java Runtime Environment). Make sure that the `JAVA_HOME` environment variable points to your installed Java SDK and Java is working properly.

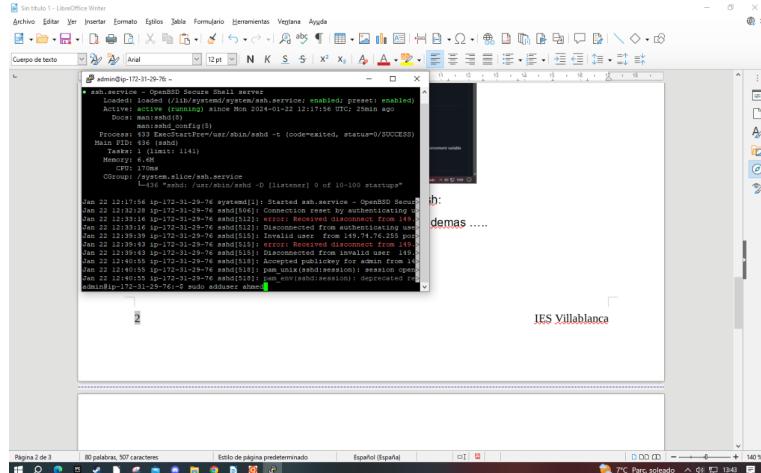
Install Tomcat

antes de eso comprobare que me puedo conectar por ssh:

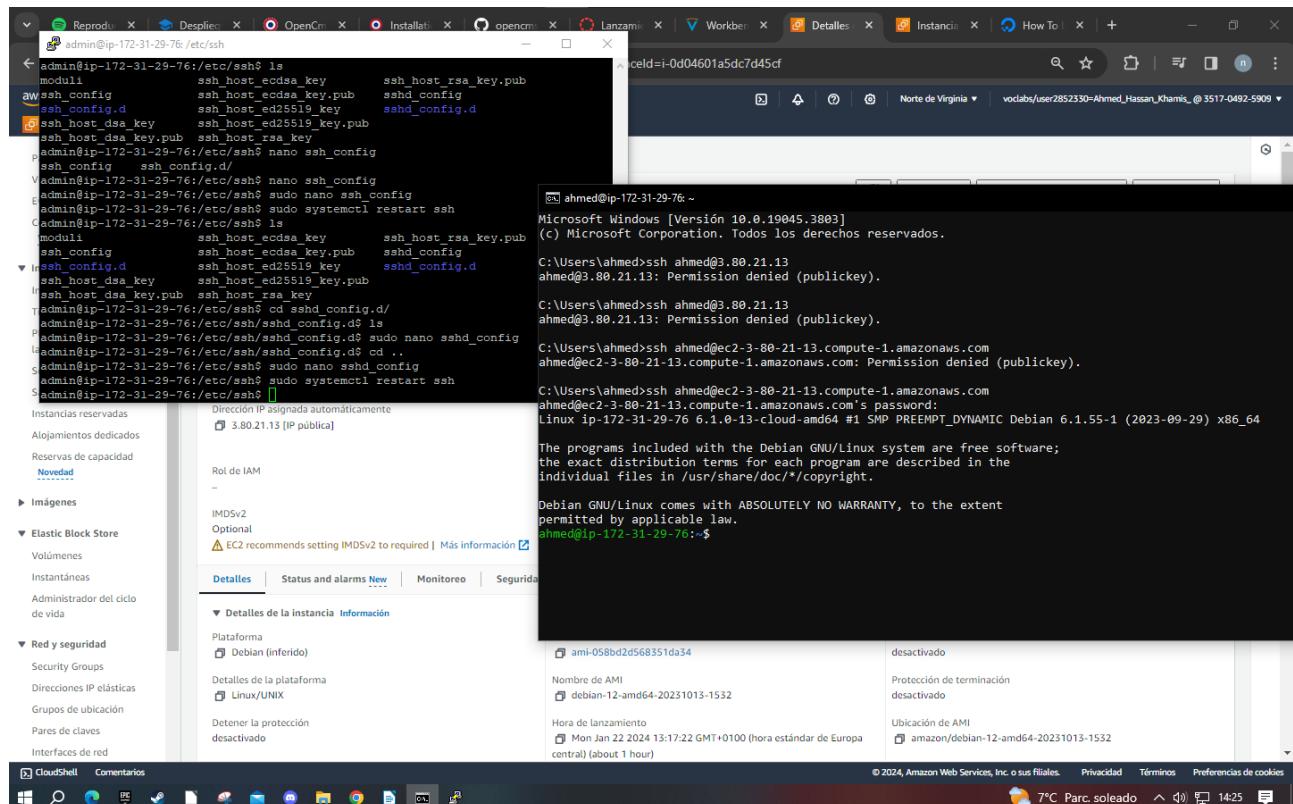
Despliegue de aplicaciones web

Ahmed Hassan Khamis

primero uso el putty para conectarme, crear el usuario y demás



Luego probare a conectarme por ssh ahora desde mi pc real con un cmd y procedere con la instalacion.



asique instalare los requisitos:

Despliegue de aplicaciones web

Ahmed Hassan Khamis

3-3.edt - LibreOffice Writer

```
ssh config.d
ssh host ed25519 key    sshd_config.d
ssh host dsa_key    ssh_host_ed25519.key.pub
ssh host dsa_key.pub    ssh_host_rsa.key
admin@ip-172-31-29-76:/etc/ssh$ nano ssh_config
admin@ip-172-31-29-76:/etc/ssh$ sudo nano ssh_config
admin@ip-172-31-29-76:/etc/ssh$ sudo systemctl restart ssh
admin@ip-172-31-29-76:/etc/ssh$ ls
moduli      sshd_config
ssh config   ssh_host_ecdsa_keys_172-31-29-76-4.sudo apt update
ssh config.d  ssh_host_ed25519.Get:1: file:/etc/apt/mirrors.debian.list Mirrorlist [38 B]
ssh host dsa_key  ssh_host_ed25519.Get:2: file:/etc/apt/mirrors.debian-security.list Mirrorlist [47 B]
ssh host dsa_key.pub  ssh_host_rsa.Get:2 https://cdn-aws.deb.debian.org/debian bookworm InRelease [151 kB]
admin@ip-172-31-29-76:/etc/ssh$ cd Get:3 https://cdn-aws.deb.debian.org/debian bookworm-updates InRelease [52.1 kB]
admin@ip-172-31-29-76:/etc/ssh$ curl Get:4 https://cdn-aws.deb.debian.org/debian bookworm-backports InRelease [56.5 kB]
admin@ip-172-31-29-76:/etc/ssh$ curl Get:5 https://cdn-aws.deb.debian.org/debian bookworm/main Sources [48.0 kB]
admin@ip-172-31-29-76:/etc/ssh$ curl Get:6 https://cdn-aws.deb.debian.org/debian bookworm/main Translation-en [0488 kB]
admin@ip-172-31-29-76:/etc/ssh$ curl Get:7 https://cdn-aws.deb.debian.org/debian bookworm/main Sources [0488 kB]
admin@ip-172-31-29-76:/etc/ssh$ curl Get:8 https://cdn-aws.deb.debian.org/debian bookworm/main amd64 Packages [8787 kB]
admin@ip-172-31-29-76:/etc/ssh$ curl Get:9 https://cdn-aws.deb.debian.org/debian bookworm/main Translation-en [6109 kB]
admin@ip-172-31-29-76:/etc/ssh$ curl Get:10 https://cdn-aws.deb.debian.org/debian bookworm-updates/main Sources [17.4 kB]
admin@ip-172-31-29-76:/etc/ssh$ curl Get:11 https://cdn-aws.deb.debian.org/debian bookworm-updates/main Translation-en [12.7 kB]
admin@ip-172-31-29-76:/etc/ssh$ curl Get:12 https://cdn-aws.deb.debian.org/debian bookworm-security/main Sources [13.8 kB]
admin@ip-172-31-29-76:/etc/ssh$ curl Get:13 https://cdn-aws.deb.debian.org/debian bookworm-backports/main Sources [165 kB]
admin@ip-172-31-29-76:/etc/ssh$ curl Get:14 https://cdn-aws.deb.debian.org/debian bookworm-backports/main amd64 Packages [166 kB]
admin@ip-172-31-29-76:/etc/ssh$ curl Get:15 https://cdn-aws.deb.debian.org/debian bookworm-backports/main Translation-en [134 kB]
admin@ip-172-31-29-76:/etc/ssh$ curl Get:16 https://cdn-aws.deb.debian.org/debian-security bookworm-security/main Sources [72.9 kB]
admin@ip-172-31-29-76:/etc/ssh$ curl Get:17 https://cdn-aws.deb.debian.org/debian-security bookworm-security/main amd64 Packages [134 kB]
admin@ip-172-31-29-76:/etc/ssh$ curl Get:18 https://cdn-aws.deb.debian.org/debian-security bookworm-security/main Translation-en [80.0 kB]
53% [1] Packages store 0 B
```

asique i

ahora mariadb:

ahora java:

Despliegue de aplicaciones web

Ahmed Hassan Khamis

para instalar tomcat me centrare en el tutorial de digital ocean: [LINK](#)

The image shows a Windows desktop with four browser windows open:

- Top-left window:** A DigitalOcean tutorial titled "How to Install Apache Tomcat 10 on Ubuntu 20.04". It shows a terminal session with commands like \$ sudo useradd -m -d /opt/tomcat -U -s /bin/false tomcat and \$ sudo apt update.
- Top-right window:** A terminal window showing the download of Apache Tomcat 10.1.18. The command used is wget https://cdn.apache.org/tomcat/tomcat-10/v10.1.18/bin/apache-tomcat-10.1.18.tar.gz.
- Bottom-left window:** Another DigitalOcean tutorial page, identical to the one above, showing the same terminal steps for user creation and package updates.
- Bottom-right window:** A terminal window showing the extraction of the downloaded tar file with the command sudo tar xvzf apache-tomcat-10.1.18.tar.gz -C /opt/tomcat --strip-components=1.

The screenshots show a series of terminal commands being run on a DigitalOcean Ubuntu 20.04 server (IP: 172.31.29.76). The user is root.

Screenshot 1: The user runs `ls` to list files in the current directory, which contains `tomcat-users.xml` and `host-manager.xml`.

```
ls
```

Screenshot 2: The user edits the `tomcat-users.xml` file using nano, adding or modifying user entries for 'admin' and 'robot'. The terminal shows the XML code being edited.

```
sudo nano /opt/tomcat/conf/tomcat-users.xml
```

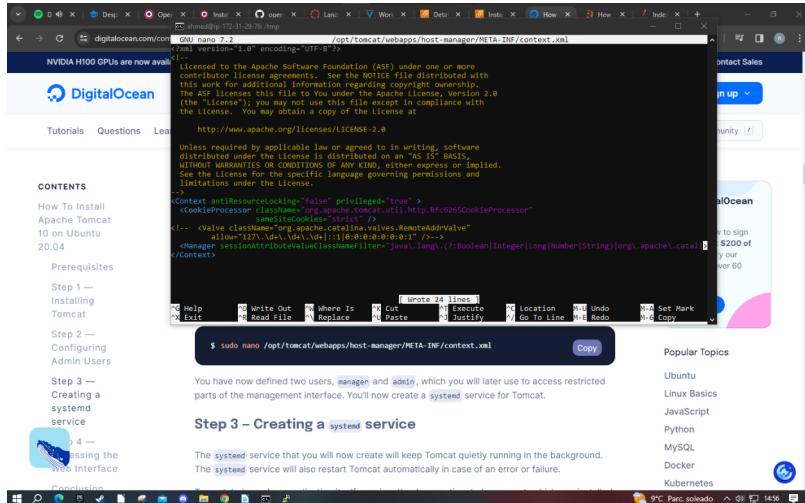
Screenshot 3: The user edits the `host-manager.xml` file using nano, changing session attribute filters. The terminal shows the XML code being edited.

```
sudo nano /opt/tomcat/webapps/host-manager/META-INF/context.xml
```

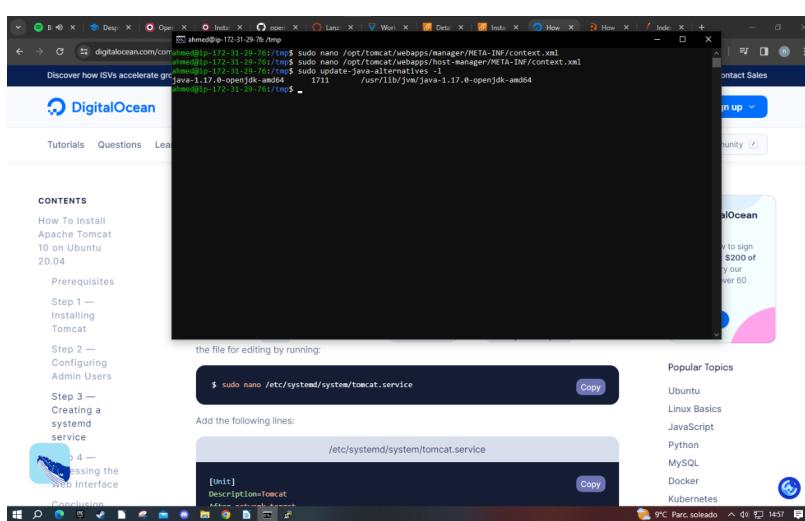
lo mismo para el directorio host-manager

Despliegue de aplicaciones web

Ahmed Hassan Khamis



```
GNU nano 7.2                               /opt/tomcat/webapps/host-manager/META-INF/context.xml
<?xml version="1.0" encoding="UTF-8"?>
<!-- Licensed to the Apache Software Foundation (ASF) under one or more
     *  contributor license agreements. See the NOTICE file distributed with
     *  this work for additional information regarding copyright ownership.
     *  The ASF licenses this file to You under the Apache License, Version 2.0
     *  (the "License"); you may not use this file except in compliance with
     *  the License. You may obtain a copy of the License at
     *
     *      http://www.apache.org/licenses/LICENSE-2.0
     *
     * Unless required by applicable law or agreed to in writing, software
     * distributed under the License is distributed on an "AS IS" BASIS,
     * WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
     * See the License for the specific language governing permissions and
     * limitations under the License.
-->
<Context privileged="true">
    <Valve processor="org.apache.tomcat.util.http.Rfc6265CookieProcessor"
        sameSiteCookies="strict" />
    <Valve className="org.apache.catalina.valves.RemoteAddrValve"
        allow="127.0.0.1;::1;0.0.0.0:0:0:1" />
    <Manager sessionAttributeValueClassNameFilter="java.lang.Long|java.lang.String|org.apache.catalina.mgt...
```



```
[Unit]
Description=Tomcat
After=network.target

[Service]
Type=forking
User=tomcat
Group=tomcat

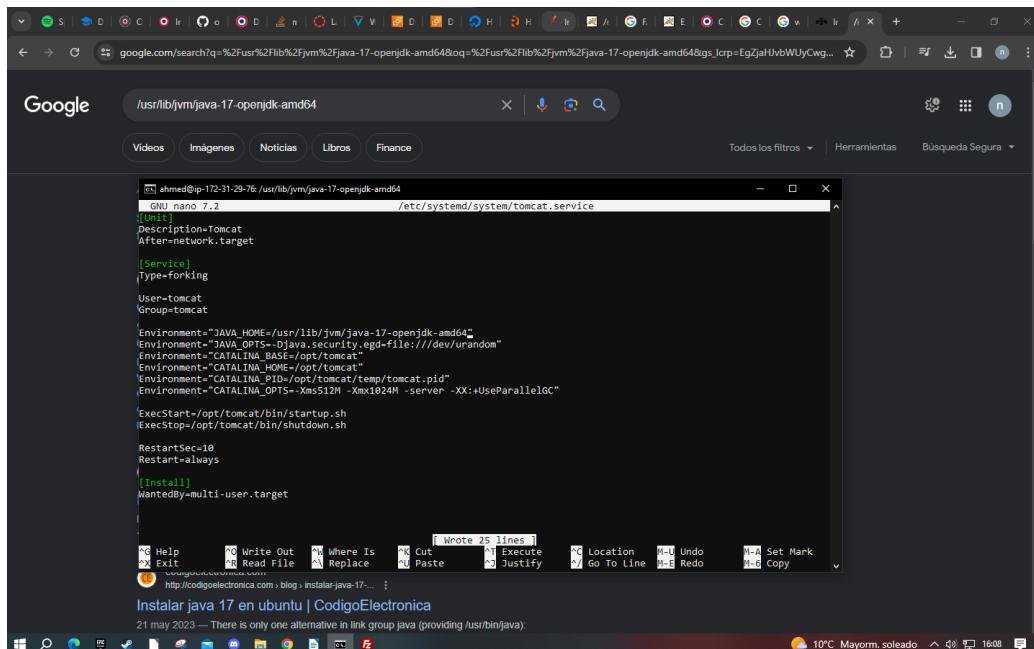
Environment="JAVA_HOME=/usr/lib/jvm/java-17-openjdk-amd64"
Environment="JAVA_OPTS=-Djava.security.egd=file:///dev/urandom"
Environment="CATALINA_BASE=/opt/tomcat"
Environment="CATALINA_HOME=/opt/tomcat"
Environment="CATALINA_PID=/opt/tomcat/temp/tomcat.pid"
Environment="CATALINA_OPTS=-Xms512M -Xmx1024M -server -XX:+UseParallelGC"

ExecStart=/opt/tomcat/bin/startup.sh
ExecStop=/opt/tomcat/bin/shutdown.sh

RestartSec=10
Restart=always

[Install]
WantedBy=multi-user.target
```

ahora configuro el servicio:



```
[Unit]
Description=Tomcat
After=network.target

[Service]
Type=forking
User=tomcat
Group=tomcat

Environment="JAVA_HOME=/usr/lib/jvm/java-17-openjdk-amd64"
Environment="JAVA_OPTS=-Djava.security.egd=file:///dev/urandom"
Environment="CATALINA_BASE=/opt/tomcat"
Environment="CATALINA_HOME=/opt/tomcat"
Environment="CATALINA_PID=/opt/tomcat/temp/tomcat.pid"
Environment="CATALINA_OPTS=-Xms512M -Xmx1024M -server -XX:+UseParallelGC"

ExecStart=/opt/tomcat/bin/startup.sh
ExecStop=/opt/tomcat/bin/shutdown.sh

RestartSec=10
Restart=always

[Install]
WantedBy=multi-user.target
```

y lo habilito:

```

Join the many businesses saving up to 60% on server costs with our cloud servers, VPS, and dedicated servers.
DigitalOcean
Tutorials Questions Learning
CONTENTS
How To Install Apache Tomcat 10 on Ubuntu 20.04
Prerequisites Step 1 — Installing Tomcat Step 2 — Configuring Admin Users Step 3 — Creating a systemmd service
Step 4 — Accessing the Web Interface
In this step, you identified where Java resides and enabled systemctl to run Tomcat in the background. You'll now access Tomcat through your web browser.
Step 4 — Accessing the Web Interface
Now that the Tomcat service is running, you can configure the firewall to allow connections to Tomcat. Then, you will be able to access its web interface.
Tomcat uses port 8080 to accept HTTP requests. Run the following command to allow traffic to

```

ahora tocaria el firewall pero como no hay instalado por defecto no importa en este caso:

```

3-3-0dt - LibreOffice Writer
Archivo Editar Ver Insertar Formato Estilos Tabla Formulario Herramientas Vista Ayuda
Cuerpo de texto Anal
y lo habilito
contents
How To Install Apache Tomcat 10 on Ubuntu 20.04
Prerequisites Step 1 — Installing Tomcat Step 2 — Configuring Admin Users Step 3 — Creating a systemmd service
Step 4 — Accessing the Web Interface
In this step, you identified where Java resides and enabled systemctl to run Tomcat in the background. You'll now access Tomcat through your web browser.
Step 4 — Accessing the Web Interface
Now that the Tomcat service is running, you can configure the firewall to allow connections to Tomcat. Then, you will be able to access its web interface.
Tomcat uses port 8080 to accept HTTP requests. Run the following command to allow traffic to

```

ahora probare que existe acceso y ya luego pruebo a su config, para esto tendre que permitir desde el firewall de aws el acceso por el puerto 8080 que es el pordefecto de tomcat.

The screenshot shows the AWS CloudShell interface with a browser window open to the AWS Management Console. The URL is `us-east-1.console.aws.amazon.com/ec2/home?region=us-east-1#ModifyInboundSecurityGroupRules/securityGroupId=sg-0b777061935bcae8b`. The page title is "Editar reglas de entrada". It displays a table of existing security group rules:

ID de la regla del grupo de seguridad	Tipo	Protocolo	Intervalo de puertos	Origen	Descripción: opcional
sgr-0719d304bf2e872bb	HTTPS	TCP	443	Personalizado	0.0.0.0/0
sgr-0e8fd1a2c3abdd6826	TCP personalizado	TCP	8080	Personalizado	0.0.0.0/0
sgr-028811a1be070182c2	SSH	TCP	22	Personalizado	0.0.0.0/0
sgr-0ffb3d0c2094092b8	HTTP	TCP	80	Personalizado	0.0.0.0/0

At the bottom of the table, there is a button labeled "Agregar regla". A note at the bottom of the page says: "⚠ Rules with source of 0.0.0.0/0 or ::/0 allow all IP addresses to access your instance. We recommend setting security group rules to allow access from known IP addresses only." Below the browser window, the Windows taskbar is visible.

y ahora realizare la prueba:

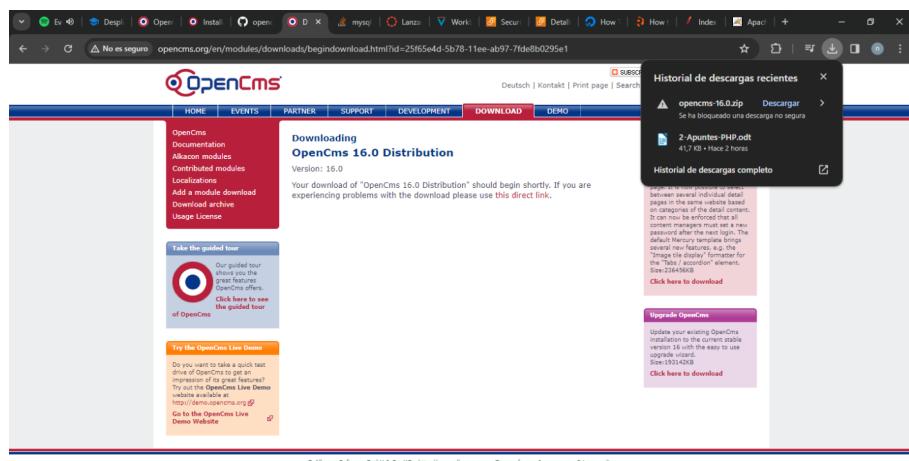
The screenshot shows a web browser window with the URL `ec2-3-80-21-13.compute-1.amazonaws.com:8080`. The page title is "Apache Tomcat/10.1.18". The main content area displays a green banner with the text "If you're seeing this, you've successfully installed Tomcat. Congratulations!" and a cartoon cat icon. Below the banner, there are several sections: "Developer Quick Start", "Documentation", and "Getting Help". The "Developer Quick Start" section includes links to "Tomcat Setup", "First Web Application", "Realms & AAA", "JDBC DataSources", "Examples", "Servlet Specifications", and "Tomcat Versions". The "Documentation" section links to "Tomcat 10.1 Documentation", "Tomcat 10.1 Configuration", and "Tomcat Wiki". The "Getting Help" section links to "FAQ and Mailing Lists" and lists several mailing lists: "tomcat-announce", "tomcat-users", "tomcat-servlets", "tomcat-jdbc", "tomcat-dev", and "Tomcat 10 Git Repository at GitHub". At the bottom of the page, there are links for "Other Downloads", "Other Documentation", "Get Involved", "Miscellaneous", and "Apache Software". The Windows taskbar is visible at the bottom of the screen.

se puede apreciar que el tomcat funciona correctamente. Ahora ire a configurar el mysql, que tal como pide se necesita cambiar la configuracion de “max_allowed_packet to max_allowed_packet=32M”:

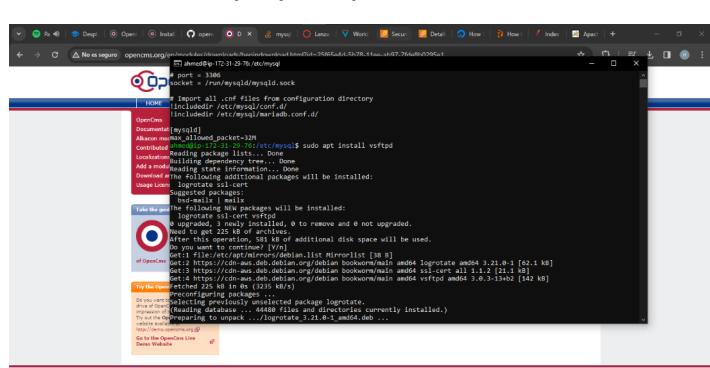
Despliegue de aplicaciones web

Ahmed Hassan Khamis

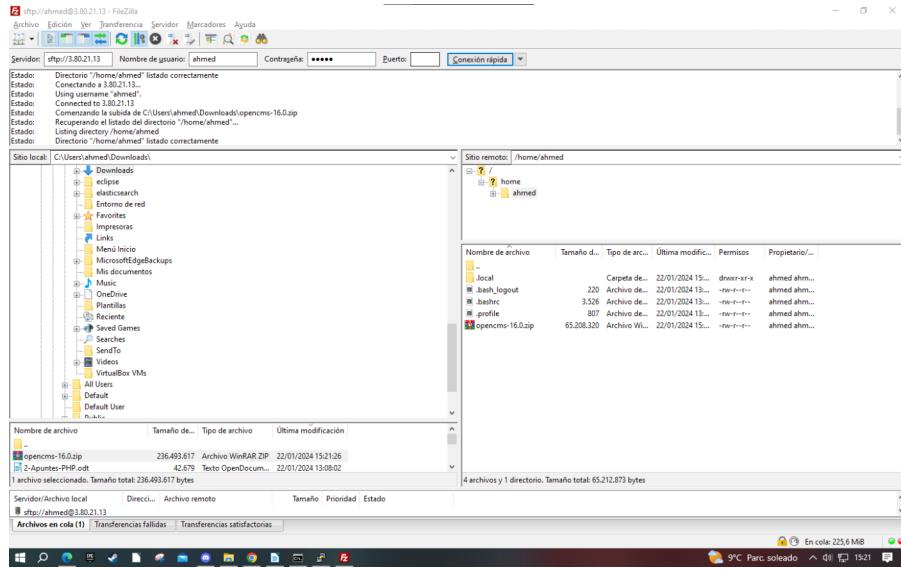
y ahora toca descargar el archivo comprimido de opencms y descomprimir en el servidor para luego desde tomcat apuntar a el:



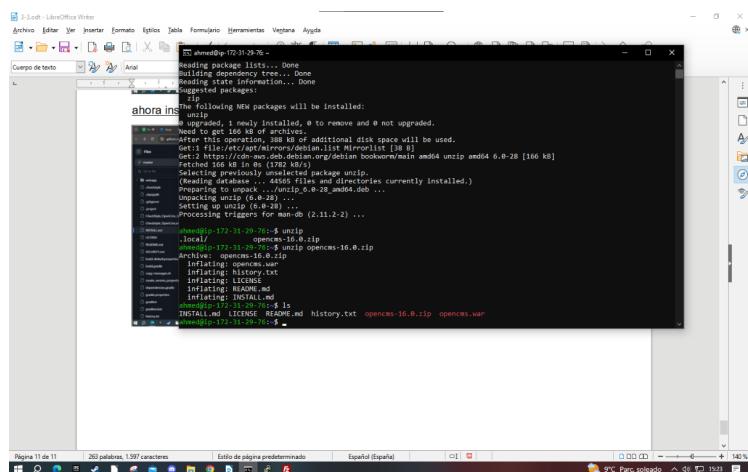
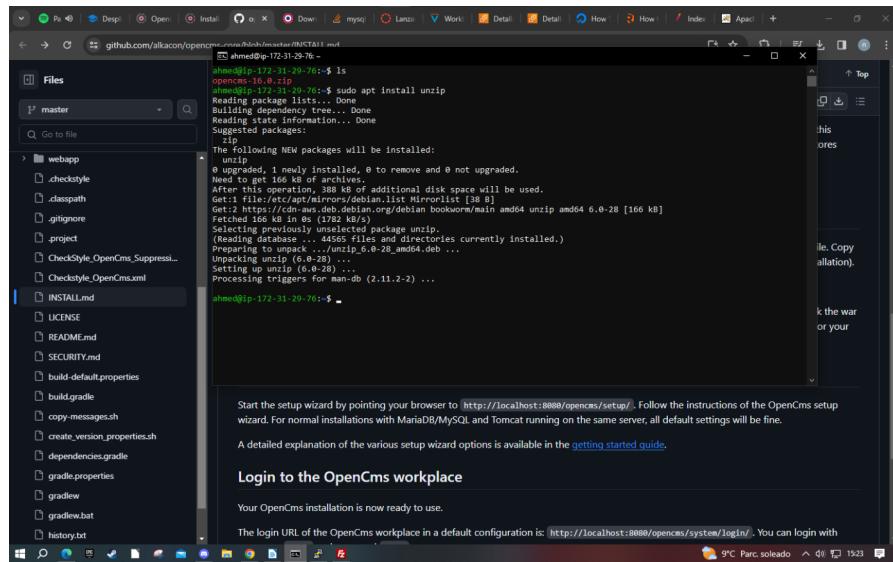
instalar un vsftpd para poser los archvies al servidor de manera mas rapida



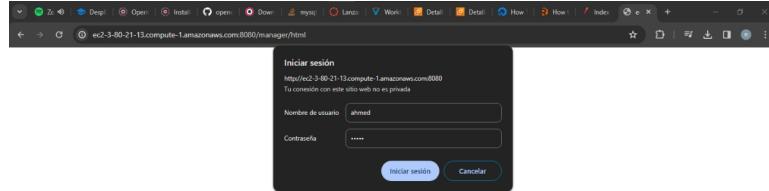
y desde el filezilla le paso los archivos:



ahora instalare unzip para descomprimir rapidamente el comprimido en el servidor:

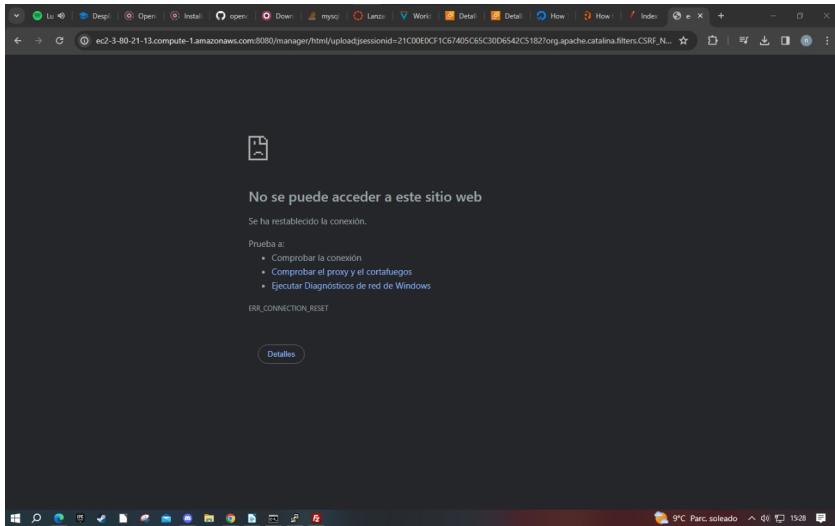


hecho lo anterior volvemos al tomcat para realizar la instalacion:

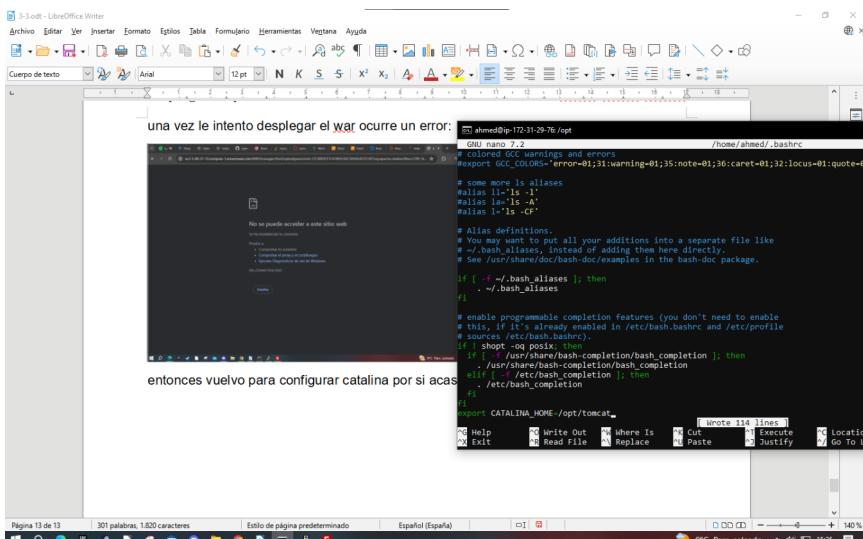


y ahora toca poner el archivo *.war :

una vez le intento desplegar el war ocurre un error:



entonces vuelvo para configurar catalina por si acaso no funcione.



y le meto un reboot al sistema:

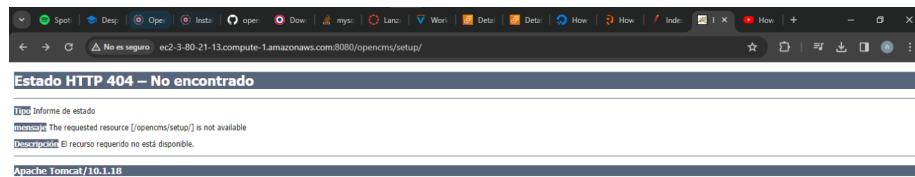
```

shmedip:~$ nano ~/.bashrc
shmedip:~$ sudo nano /etc/systemd/system/tomcat.service
shmedip:~$ /etc/systemd/system/tomcat.service
shmedip:~$ reboot
bash: reboot: command not found
shmedip:~$ reboot
Broadcast message from root@ip-172-31-29-76 on pts/2 (Mon Jan 22 14:37:56 UTC):
The system will reboot now!
shmedip:~$ Connection to ec2-3-80-21-13.compute-1.amazonaws.com closed by remote host.
Connection to ec2-3-80-21-13.compute-1.amazonaws.com closed.

C:\Users\ahmed\ssh ahmed@ec2-3-80-21-13.compute-1.amazonaws.com
ahmed@ec2-3-80-21-13:~$ .password:
Debian GNU/Linux 6.1.0-17-cloud-amd64 #1 SMP PREEMPT_DYNAMIC Debian 6.1.69-1 (2023-12-30) x86_64
The programs included with the Debian GNU/Linux system are free software;
the exact distribution terms for each program are described in the
individual files in /usr/share/doc/*copyright*.

Debian GNU/Linux comes with ABSOLUTELY NO WARRANTY, to the extent
permitted by applicable law.
last login: Mon Jan 22 13:24:36 2024 from 149.74.76.255
shmedip:~$ reboot
y le meto un reboot al sistema

```



ya que el despliegue no se puede hacer mediante el app manager lo movere a mano y reiniciare el servicio:

Despliegue de aplicaciones web

Ahmed Hassan Khamis



tras mirar logs decidi bajar de version de java:

```
[root@localhost ~]# ./tomcat7.sh start
[2014-02-22 15:11:31,857] INFO [http-nio-8080-exec-8] org.apache.catalina.core.ApplicationContext.log: list: listing contexts for virtual host 'localhost'
[2014-02-22 15:11:31,857] INFO [http-nio-8080-exec-1] org.apache.catalina.core.ApplicationContext.log: HTMLManager: init: Associated with Deployer 'Catalina:type=Deployer,host=localhost'
[2014-02-22 15:11:31,857] INFO [http-nio-8080-exec-1] org.apache.catalina.core.ApplicationContext.log: HTMLManager: init: Global resources are available
[2014-02-22 15:11:31,857] INFO [http-nio-8080-exec-4] org.apache.catalina.core.ApplicationContext.log: HTMLManager: list: listing contexts for virtual host 'localhost'
[2014-02-22 15:11:31,857] INFO [http-nio-8080-exec-4] org.apache.catalina.core.ApplicationContext.log: HTMLManager: list: listing contexts for virtual host 'opencms'
[2014-02-22 15:11:31,857] INFO [http-nio-8080-exec-4] org.apache.catalina.core.ApplicationContext.log: HTMLManager: Error starting [/opencms]
org.apache.catalina.lifecycleException: Failed to start component [StandardEngine[Catalina].StandardHost[localhost].StandardContext[/opencms]]
at org.apache.catalina.core.ContainerBase.addChildInternal(ContainerBase.java:919)
at org.apache.catalina.core.ContainerBase.addChild(ContainerBase.java:902)
at org.apache.catalina.core.StandardContext.addChild(StandardContext.java:5419)
at org.apache.catalina.core.StandardContext.startInternal(StandardContext.java:1818)
at org.apache.catalina.manager.ManagerServlet.start(ManagerServlet.java:115)
at org.apache.catalina.core.ApplicationFilterChain.internalDoFilter(ApplicationFilterChain.java:265)
at org.apache.catalina.core.ApplicationFilterChain.access$000(ApplicationFilterChain.java:265)
at org.apache.catalina.core.ApplicationFilterChain$1.run(ApplicationFilterChain.java:268)
at jakarta.servlet.http.HttpServlet.service(HttpServlet.java:590)
at jakarta.servlet.http.HttpServlet.service(HttpServlet.java:658)
at org.apache.catalina.core.ApplicationFilterChain.internalDoFilter(ApplicationFilterChain.java:205)
at org.apache.catalina.core.ApplicationFilterChain.doFilter(ApplicationFilterChain.java:149)
at org.apache.catalina.filters.CsrfPreventionFilter.doFilter(CsrfPreventionFilter.java:196)
at org.apache.catalina.core.ApplicationFilterChain.internalDoFilter(ApplicationFilterChain.java:174)
at org.apache.catalina.core.ApplicationFilterChain.access$000(ApplicationFilterChain.java:174)
at org.apache.catalina.core.ApplicationFilterChain$1.run(ApplicationFilterChain.java:149)
at org.apache.tomcat.websocket.server.WsFilter.doFilter(WsFilter.java:51)
at org.apache.catalina.core.ApplicationFilterChain.internalDoFilter(ApplicationFilterChain.java:174)
at org.apache.catalina.core.ApplicationFilterChain.access$000(ApplicationFilterChain.java:174)
at org.apache.catalina.filters.HttpHeaderSecurityFilter.doFilter(HttpHeaderSecurityFilter.java:129)
at org.apache.catalina.core.ApplicationFilterChain.internalDoFilter(ApplicationFilterChain.java:174)
at org.apache.catalina.core.ApplicationFilterChain.access$000(ApplicationFilterChain.java:174)
at org.apache.catalina.core.StandardWrapperValve.invoke(StandardWrapperValve.java:167)
at org.apache.catalina.core.StandardContextValve.invoke(StandardContextValve.java:98)
at org.apache.catalina.authenticator.AuthenticatorBase.invoke(AuthenticatorBase.java:597)
at org.apache.catalina.core.StandardHostValve.invoke(StandardHostValve.java:140)
at org.apache.catalina.valves.ErrorReportValve.invoke(ErrorReportValve.java:93)
at org.apache.catalina.valves.AbstractAccessLogValve.invoke(AbstractAccessLogValve.java:673)
at org.apache.catalina.core.StandardEngineValve.invoke(StandardEngineValve.java:74)
at org.apache.catalina.connector.CoyoteAdapter.service(CoyoteAdapter.java:340)
at org.apache.coyote.ajp.AjpProcessor.service(AjpProcessor.java:95)
at org.apache.coyote.http11.Http11Processor.service(Http11Processor.java:85)
at org.apache.coyote.AbstractProcessorLight.process(AbstractProcessorLight.java:58)
at org.apache.coyote.AbstractProtocol$AbstractConnectionHandler.process(AbstractProtocol.java:896)
at org.apache.tomcat.util.NioEndpoint$SocketProcessor.doRun(NioEndpoint.java:1744)
at org.apache.tomcat.util.NioEndpoint.run(SocketProcessorBase.java:52)
at org.apache.tomcat.util.NioEndpoint$Worker.run(NioEndpoint.java:1191)
at java.util.concurrent.ThreadPoolExecutor$Worker.run(ThreadPoolExecutor.java:659)
at org.apache.tomcat.util.threads.TaskThread$WrappingRunnable.run(TaskThread.java:65)
at java.base/java.lang.Thread.run(Thread.java:848)

Caused by: java.lang.NoClassDefFoundError: org.jaxws.WebService not present
at java.base/sun.reflect.annotation.TypeCheckProxy.generateException(TypeNotPresentExceptionProxy.java:47)
at java.base/sun.reflect.annotation.AnnotationInvocationHandler.invoke(AnnotationInvocationHandler.java:69)
at jdk.proxy2/jdk.proxy2.$Proxy2.value(Unknown Source)
```

y explota por dependencias parece ser... la intentar bajar a una version mas antigua no deja el debian12.