

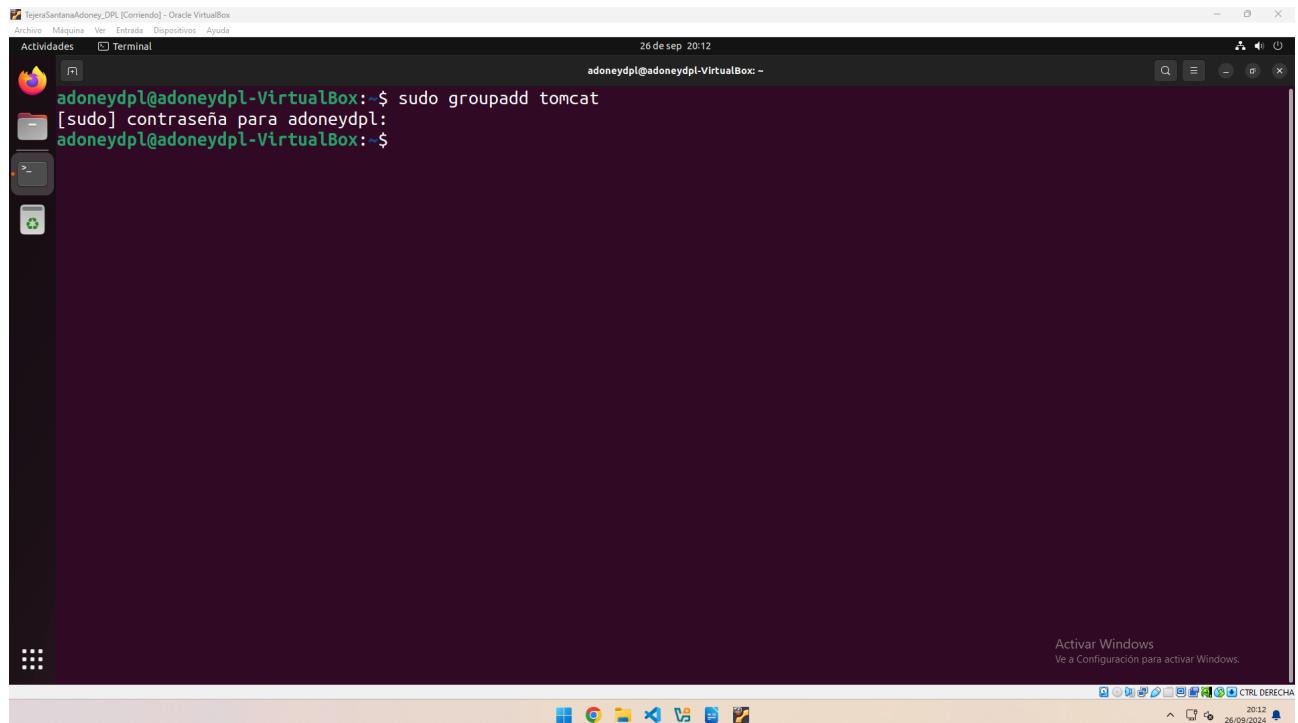
Actividad 3 UT1

Tejera Santana Adoney
Actividad N.º3 – 2ºA DAW
Curso 2024/2025

Sumario

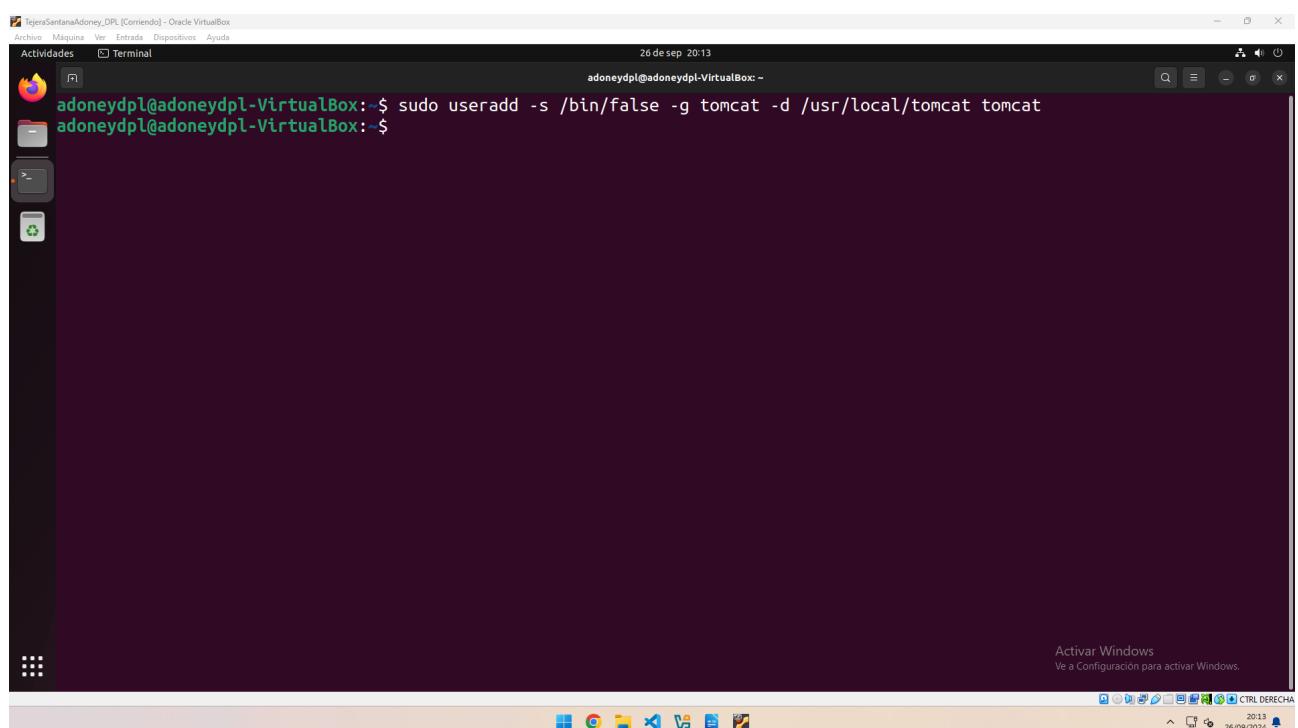
1.1. Instalar y configurar el servidor de aplicaciones – Tomcat siguiendo los pasos indicados en el archivo de la guía.....	3
Se crea el grupo tomcat.....	4
Se crea al nuevo usuario.....	4
Se descarga el comprimido de Tomcat.....	5
Se extrae tomcat.....	6
Se le da propiedad de tomcat al grupo tomcat.....	7
Se le da permiso al directorio conf.....	8
Se asigna como propietario al grupo tomcat de las carpetas indicadas.....	9
Se instala JDK.....	10
Se crea el archivo tomcat.service.....	11
Se reinicia systemd y se inicia tomcat.....	12
Se da permiso al puerto 8080 de tomcat.....	13
Se comprueba de que tomcat es iniciado.....	14
Se agrega un usuario al servidor.....	15
Se comenta la restricción de IP.....	16
Se comprueba que funcione correctamente.....	16
1.2. Despliegue de Apps.....	17
Crear una app web en la carpeta webapps de Tomcat, creando su estructura de directorios según el ejemplo facilitado en el apartado 3.1, en la guía de apps.....	17
Se crea la estructura de la aplicación.....	17
1.3. Realizar el despliegue de una app web facilitada de acuerdo a los pasos indicados en el apartado 3.2 la guía de App web.....	17
Se puede mostrar la página desde el servidor indicando el nombre de la carpeta.....	17
Se crea el archivo descriptor de despliegue.....	18
Se crea el fichero WAR.....	18
Se despliega la aplicación con el fichero WAR.....	19
Ahora se ve mostrado la aplicación.....	19

1.1. Instalar y configurar el servidor de aplicaciones – Tomcat siguiendo los pasos indicados en el archivo de la guía.



```
adoneydpl@adoneydpl-VirtualBox:~$ sudo groupadd tomcat  
[sudo] contraseña para adoneydpl:  
adoneydpl@adoneydpl-VirtualBox:~$
```

Se crea el grupo tomcat. sudo groupadd tomcat



```
adoneydpl@adoneydpl-VirtualBox:~$ sudo useradd -s /bin/false -g tomcat -d /usr/local/tomcat tomcat  
adoneydpl@adoneydpl-VirtualBox:~$
```

Se crea al nuevo usuario. sudo useradd -s /bin/false -g tomcat -d /usr/local/tomcat tomcat

TejeraSananaAdoney_DPL [Corriendo] - Oracle VirtualBox

Actividades Navegador web Firefox

Apache Tomcat - Apache Tomcat® - Aplicación

https://tomcat.apache.org/download-90.cgi

26 de sep 20:15

Quick Navigation

KEYS | 9.0.95 | Browse | Archives

Release Integrity

You must verify the integrity of the downloaded files. We provide OpenPGP signatures for every release file. This signature should be matched against the KEYS file which contains the OpenPGP keys of Tomcat's Release Managers. We also provide SHA-512 checksums for every release file. After you download the file, you should calculate a checksum for your download, and make sure it is the same as ours.

Mirrors

You are currently using <https://dlcdn.apache.org>. If you encounter a problem with this mirror, please select another mirror. If all mirrors are failing, there are backup mirrors (at the end of the mirrors list) that should be available.

Other mirrors: <https://dlcdn.apache.org/> Change

9.0.95

Please see the [README](#) file for packaging information. It explains what every distribution contains.

Binary Distributions

- Core:
 - [ZIP \(pgp, sha512\)](#)
 - [tar.gz \(pgp, sha512\)](#)
 - [32-bit Windows zip \(pgp, sha512\)](#)
 - [64-bit Windows zip \(pgp, sha512\)](#)
 - [32-bit/64-bit Windows Service Installer \(pgp, sha512\)](#)
- Full documentation:
 - [tar.gz \(pgp, sha512\)](#)
- Deployer:
 - [tar.gz \(pgp, sha512\)](#)
 - [tar.gz \(pgp, sha512\)](#)
- Embedded:
 - [tar.gz \(pgp, sha512\)](#)
 - [ZIP \(pgp, sha512\)](#)

Source Code Distributions

- [tar.gz \(pgp, sha512\)](#)
- [zip \(pgp, sha512\)](#)

Activar Windows
Ve a Configuración para activar Windows.

CTRL DERECHA

2015 26/09/2024

Se descarga el comprimido de Tomcat.

TejeraSananaAdoney_DPL [Corriendo] - Oracle VirtualBox

Actividades Terminal

adoneydpl@adoneydpl-VirtualBox:~/opt/tomcat\$ sudo tar xzvf apache-tomcat-9*.tar.gz -C /opt/tomcat --strip-components=1

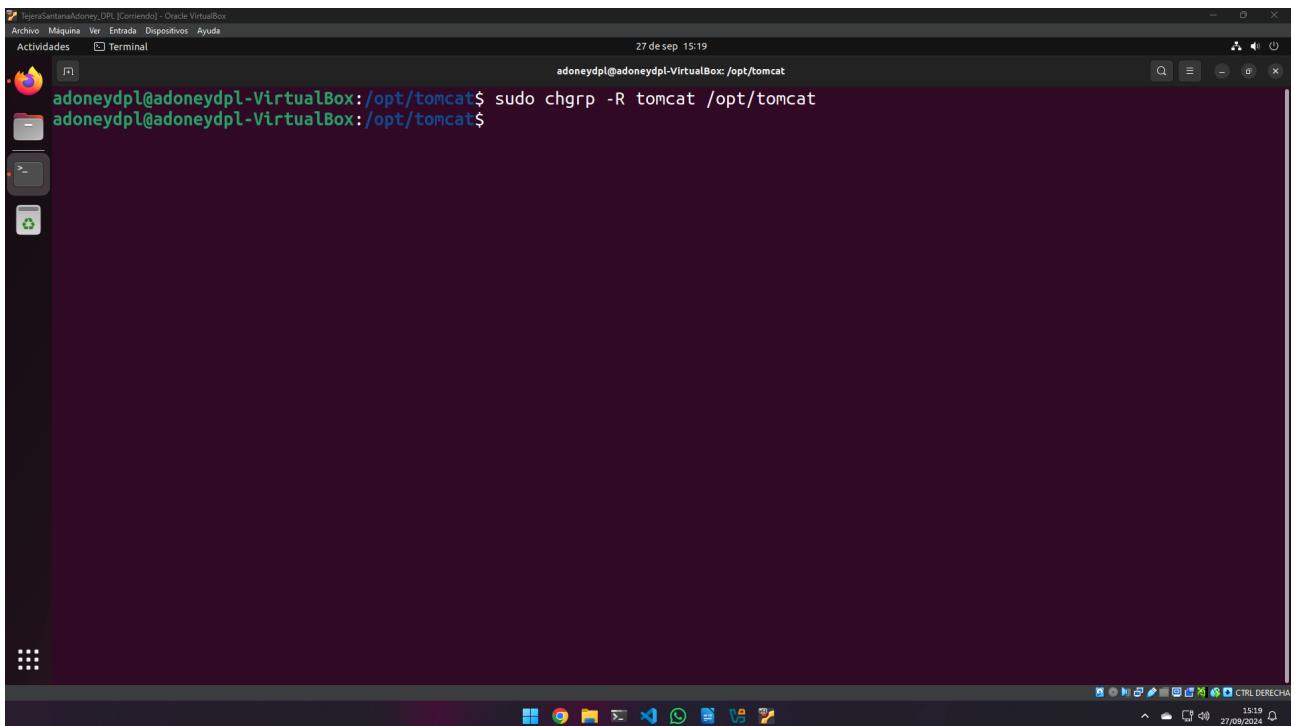
27 de sep 15:17

adoneydpl@adoneydpl-VirtualBox:~/opt/tomcat\$

CTRL DERECHA

15:17 27/09/2024

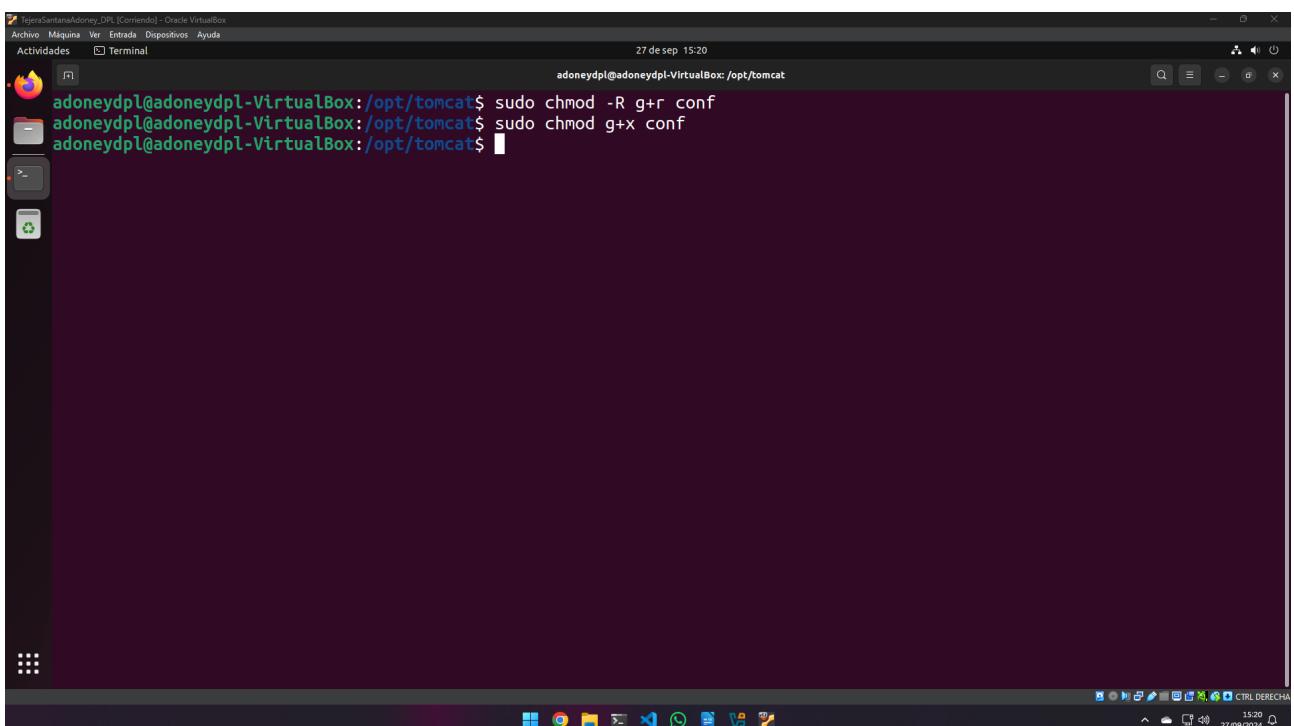
Se extrae tomcat. `sudo tar xzvf apache-tomcat-9*.tar.gz -C /opt/tomcat --strip-components=1`



A screenshot of a Linux desktop environment, likely Ubuntu, running in Oracle VirtualBox. The desktop has a dark theme with a purple header bar. A terminal window is open in the top right corner, showing the command line. The terminal window title is "TejeraSanchezAdoney_DPL [Corriendo] - Oracle VirtualBox". The terminal content shows the user running the command "sudo chgrp -R tomcat /opt/tomcat" twice, indicating a failed attempt or a typo. The terminal window has a dark background with light-colored text. The desktop icons include a trash can, a folder, and a file icon.

```
adoneydpl@adoneydpl-VirtualBox:/opt/tomcat$ sudo chgrp -R tomcat /opt/tomcat
adoneydpl@adoneydpl-VirtualBox:/opt/tomcat$
```

Se le da propiedad de tomcat al grupo tomcat. sudo chgrp -R tomcat /opt/tomcat



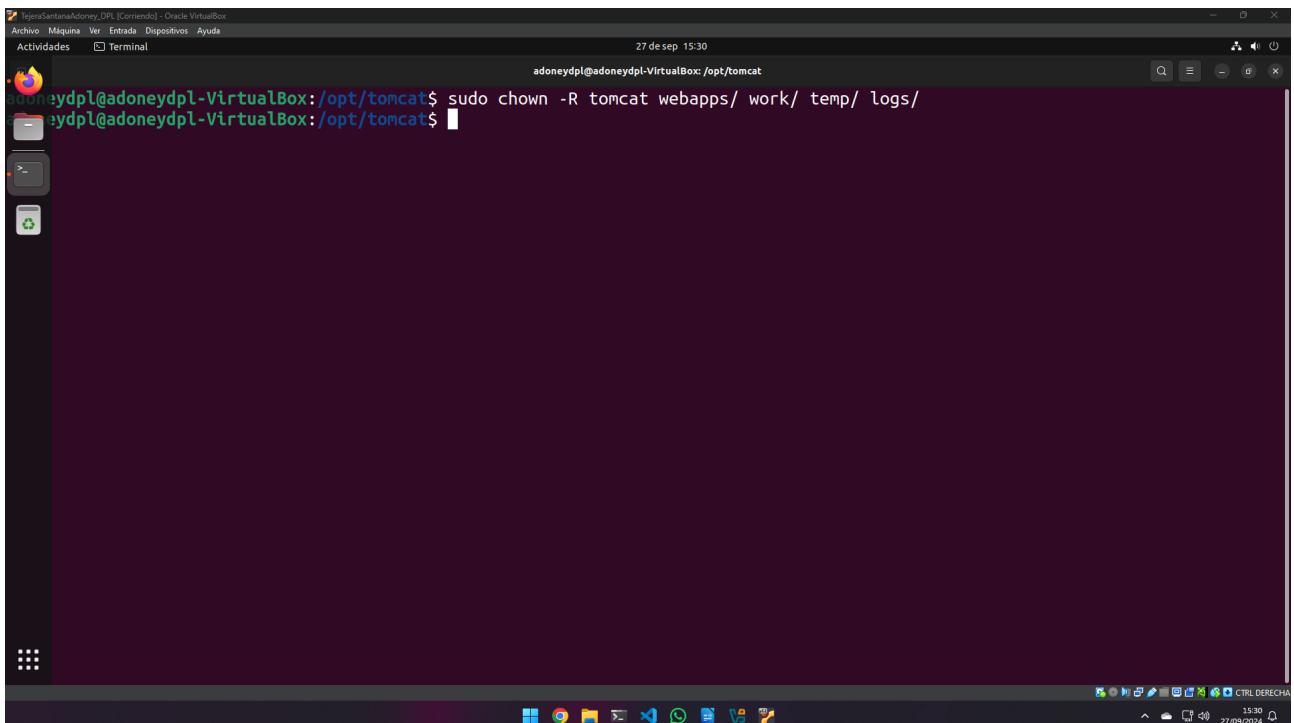
A screenshot of a Linux desktop environment, likely Ubuntu, running in Oracle VirtualBox. The desktop has a dark theme with a purple header bar. A terminal window is open in the top right corner, showing the command line. The terminal window title is "TejeraSanchezAdoney_DPL [Corriendo] - Oracle VirtualBox". The terminal content shows the user running two commands: "sudo chmod -R g+r conf" followed by "sudo chmod g+x conf". The terminal window has a dark background with light-colored text. The desktop icons include a trash can, a folder, and a file icon.

```
adoneydpl@adoneydpl-VirtualBox:/opt/tomcat$ sudo chmod -R g+r conf
adoneydpl@adoneydpl-VirtualBox:/opt/tomcat$ sudo chmod g+x conf
adoneydpl@adoneydpl-VirtualBox:/opt/tomcat$
```

Se le da permiso al directorio conf.

sudo chmod -R g+r conf

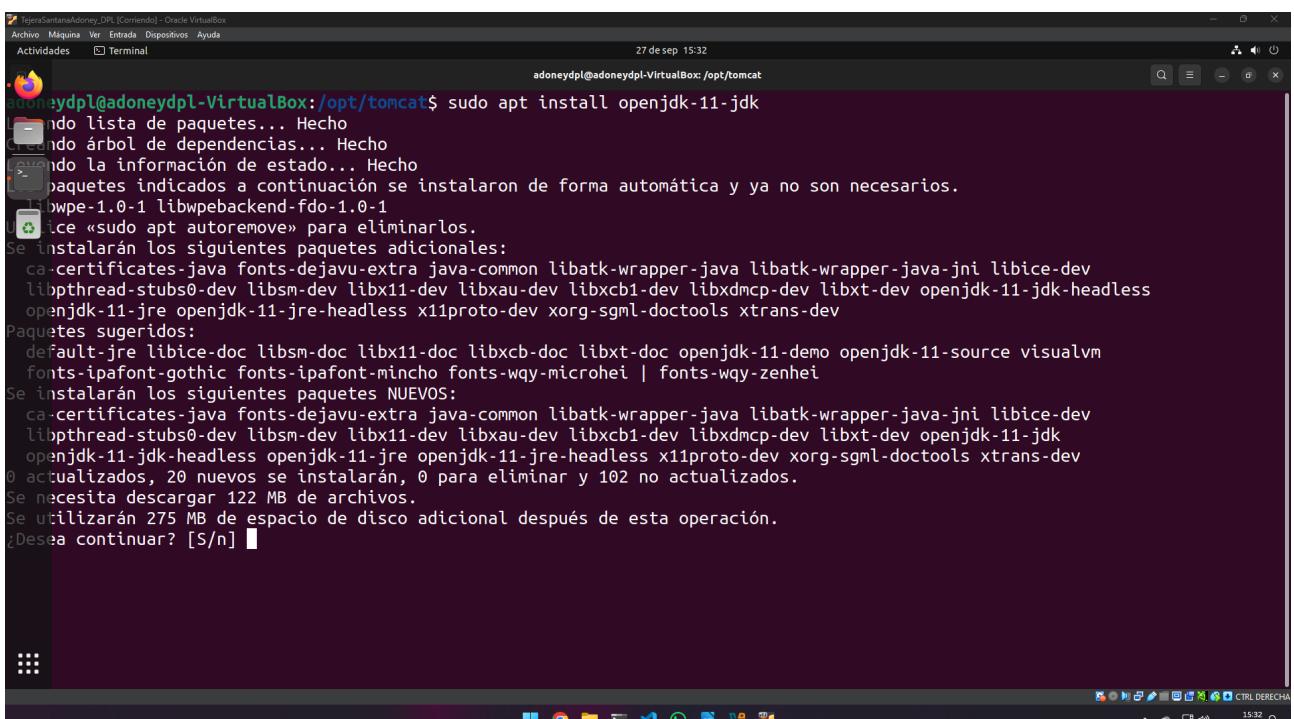
sudo chmod g+x conf



A screenshot of a Linux desktop environment, likely Ubuntu, running in Oracle VirtualBox. The terminal window shows the command `sudo chown -R tomcat webapps/ work/ temp/ logs/` being run by the user `adoneydpl`. The terminal window has a dark background and white text. The desktop interface includes a dock with various icons at the bottom.

```
adoneydpl@adoneydpl-VirtualBox:~/opt/tomcat$ sudo chown -R tomcat webapps/ work/ temp/ logs/
adoneydpl@adoneydpl-VirtualBox:~/opt/tomcat$
```

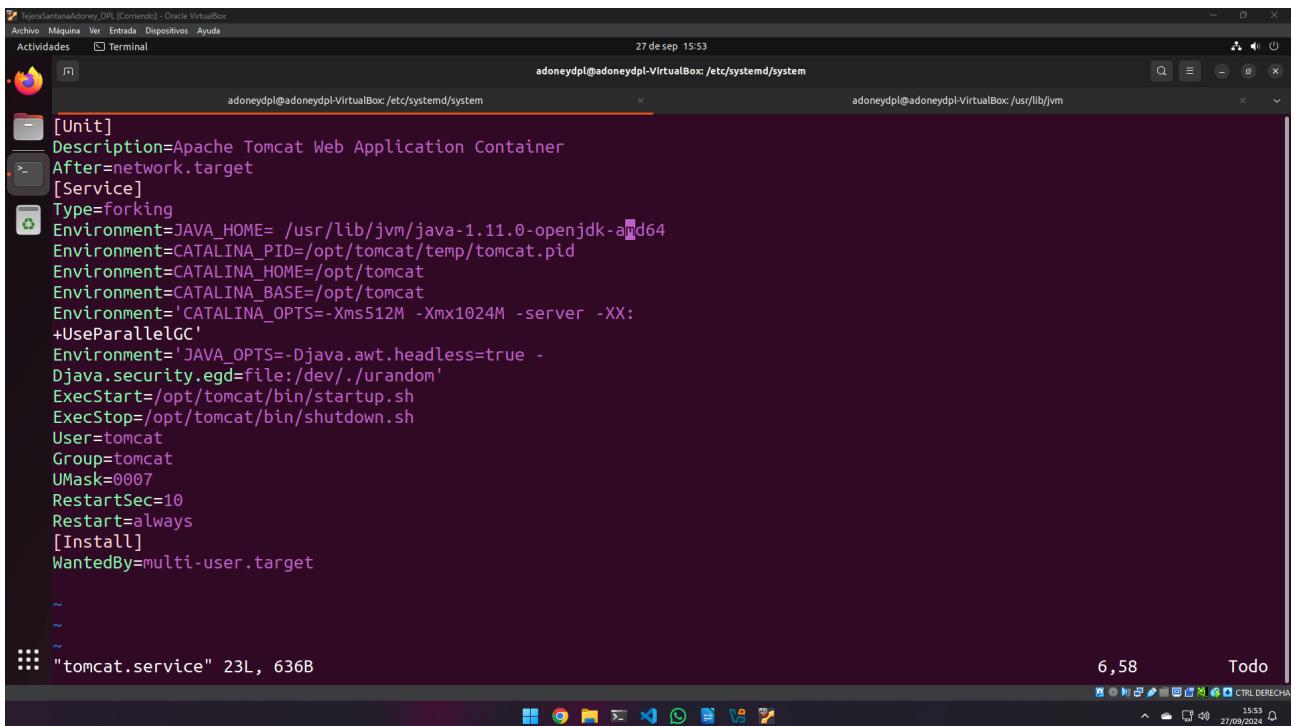
Se asigna como propietario al grupo tomcat de las carpetas indicadas. `sudo chown -R tomcat webapps/ work/ temp/ logs/`



A screenshot of a Linux desktop environment, likely Ubuntu, running in Oracle VirtualBox. The terminal window shows the output of the command `sudo apt install openjdk-11-jdk`. The output details the installation process, including dependencies and suggested packages. The terminal window has a dark background and white text. The desktop interface includes a dock with various icons at the bottom.

```
adoneydpl@adoneydpl-VirtualBox:~/opt/tomcat$ sudo apt install openjdk-11-jdk
Lendo lista de paquetes... Hecho
Lendo árbol de dependencias... Hecho
Lendo la información de estado... Hecho
Los paquetes indicados a continuación se instalaron de forma automática y ya no son necesarios.
  libjpepegc-1.0.1 libwpbebackend-fdo-1.0-1
Ubrece «sudo apt autoremove» para eliminarlos.
Se instalarán los siguientes paquetes adicionales:
  ca-certificates-java fonts-dejavu-extra java-common libatk-wrapper-java libatk-wrapper-java-jni libice-dev
  libpthread-stubs0-dev libsm-dev libx11-dev libxau-dev libxcb1-dev libxdmcp-dev libxt-dev openjdk-11-jdk-headless
  openjdk-11-jre openjdk-11-jre-headless x11proto-dev xorg-sgml-doctools xtrans-dev
Paquetes sugeridos:
  default-jre libice-doc libsm-doc libxcb1-doc libxt-doc openjdk-11-demo openjdk-11-source visualvm
  fonts-ipafont-gothic fonts-ipafont-mincho fonts-wqy-microhei | fonts-wqy-zenhei
Se instalarán los siguientes paquetes NUEVOS:
  ca-certificates-java fonts-dejavu-extra java-common libatk-wrapper-java libatk-wrapper-java-jni libice-dev
  libpthread-stubs0-dev libsm-dev libx11-dev libxau-dev libxcb1-dev libxdmcp-dev libxt-dev openjdk-11-jdk
  openjdk-11-jdk-headless openjdk-11-jre openjdk-11-jre-headless x11proto-dev xorg-sgml-doctools xtrans-dev
0 actualizados, 20 nuevos se instalarán, 0 para eliminar y 102 no actualizados.
Se necesita descargar 122 MB de archivos.
Se utilizarán 275 MB de espacio de disco adicional después de esta operación.
¿Desea continuar? [S/n] 
```

Se instala JDK.



```
[Unit]
Description=Apache Tomcat Web Application Container
After=network.target
[Service]
Type=forking
Environment=JAVA_HOME= /usr/lib/jvm/java-1.11.0-openjdk-amd64
Environment=CATALINA_PID=/opt/tomcat/temp/tomcat.pid
Environment=CATALINA_HOME=/opt/tomcat
Environment=CATALINA_BASE=/opt/tomcat
Environment='CATALINA_OPTS=-Xms512M -Xmx1024M -server -XX:+UseParallelGC'
Environment='JAVA_OPTS=-Djava.awt.headless=true -Djava.security.egd=file:/dev/./urandom'
ExecStart=/opt/tomcat/bin/startup.sh
ExecStop=/opt/tomcat/bin/shutdown.sh
User=tomcat
Group=tomcat
UMask=0007
RestartSec=10
Restart=always
[Install]
WantedBy=multi-user.target

~
~
~ "tomcat.service" 23L, 636B
```

Se crea el archivo tomcat.service. sudo nano /etc/systemd/system/tomcat.service

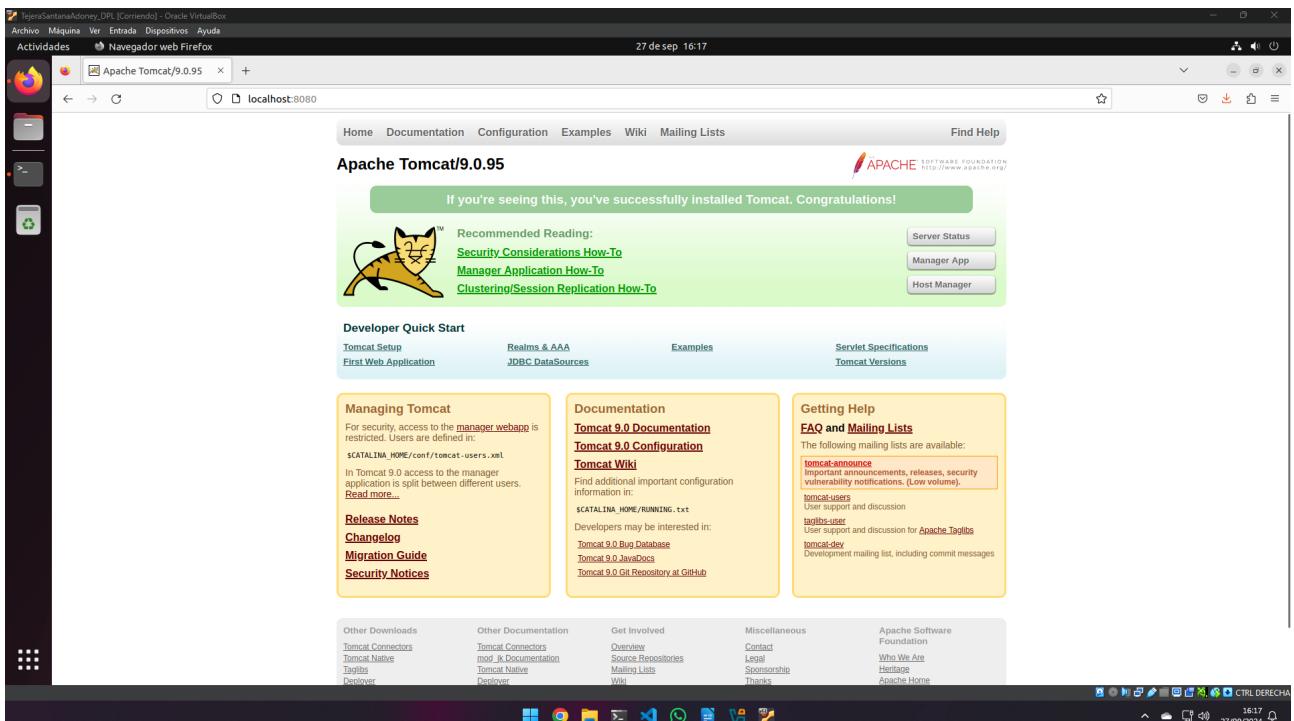
```
[Unit]
Description=Apache Tomcat Web Application Container
After=network.target
[Service]
Type=forking
Environment=JAVA_HOME= /usr/lib/jvm/java-1.11.0-openjdk-amd64
Environment=CATALINA_PID=/opt/tomcat/temp/tomcat.pid
Environment=CATALINA_HOME=/opt/tomcat
Environment=CATALINA_BASE=/opt/tomcat
Environment='CATALINA_OPTS=-Xms512M -Xmx1024M -server -XX:+UseParallelGC'
Environment='JAVA_OPTS=-Djava.awt.headless=true -Djava.security.egd=file:/dev/./urandom'
ExecStart=/opt/tomcat/bin/startup.sh
ExecStop=/opt/tomcat/bin/shutdown.sh
User=tomcat
Group=tomcat
UMask=0007
RestartSec=10
Restart=always
[Install]
WantedBy=multi-user.target
```

```
adoneydpl@adoneydpl-VirtualBox:~$ sudo systemctl daemon-reload  
adoneydpl@adoneydpl-VirtualBox:~$ sudo systemctl start tomcat  
adoneydpl@adoneydpl-VirtualBox:~$ sudo systemctl status tomcat  
● tomcat.service - Apache Tomcat Web Application Container  
   Loaded: loaded (/etc/systemd/system/tomcat.service; disabled; vendor preset: enabled)  
   Active: active (running) since Fri 2024-09-27 15:53:57 WEST; 25s ago  
     Process: 58073 ExecStart=/opt/tomcat/bin/startup.sh (code=exited, status=0/SUCCESS)  
   Main PID: 58083 (java)  
     Tasks: 34 (limit: 4493)  
    Memory: 91.4M  
       CPU: 3.067s  
      CGroup: /system.slice/tomcat.service  
              └─58083 /usr/bin/java -Djava.util.logging.config.file=/opt/tomcat/conf/logging.properties -Djava.util.loggin  
sep 27 15:53:57 adoneydpl-VirtualBox systemd[1]: Starting Apache Tomcat Web Application Container...  
sep 27 15:53:57 adoneydpl-VirtualBox startup.sh[58073]: Tomcat started.  
sep 27 15:53:57 adoneydpl-VirtualBox systemd[1]: Started Apache Tomcat Web Application Container.  
lines 1-14/14 (END)
```

Se reinicia systemd y se inicia tomcat.

```
adoneydpl@adoneydpl-VirtualBox:~$ sudo ufw allow 8080  
[sudo] contraseña para adoneydpl:  
Reglas actualizadas  
Reglas actualizadas (v6)  
adoneydpl@adoneydpl-VirtualBox:~$
```

Se da permiso al puerto 8080 de tomcat.



Se comprueba de que tomcat es iniciado.

```
application, do not forget to remove the <!...> that surrounds them. You
will also need to set the passwords to something appropriate.

-->
<!--
<user username="admin" password="" roles="manager-gui"/>
<user username="robot" password="" roles="manager-script"/>
-->
<!--
The sample user and role entries below are intended for use with the
examples web application. They are wrapped in a comment and thus are ignored
when reading this file. If you wish to configure these users for use with the
examples web application, do not forget to remove the <!...> that surrounds
them. You will also need to set the passwords to something appropriate.
-->
<!--
<role rolename="tomcat"/>
<role rolename="role1"/>
<user username="tomcat" password="" roles="tomcat"/>
<user username="both" password="" roles="tomcat,role1"/>
<user username="role1" password="" roles="role1"/>
-->

<user username="admin" password="1234" roles="manager-gui,admingui"/>

</tomcat-users>
-- INSERTAR --
```

Se agrega un usuario al servidor. “`sudo nano /opt/tomcat/conf/tomcat-users.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 antiResourceLocking="false" privileged="true" >
    <CookieProcessor className="org.apache.tomcat.util.http.Rfc6265CookieProcessor"
        sameSiteCookies="strict" />
    <!-- <Valve className="org.apache.catalina.valves.RemoteAddrValve"
        allow="127.\d{1,3}.\d{1,3}.\d{1,3}.\d{1,3}:10000:0:0:0:1" />-->
    <Manager sessionAttributeValueClassNameFilter="java\.lang\.(?:Boolean|Integer|Long|Number|String)|org\apache\catalina\filters\CsrfPreventionFilter\$LruCache(?:\$1)?|java\util\.(?:Linked)?HashMap"/>
</Context>

```

~ "/opt/tomcat/webapps/manager/META-INF/context.xml" 24L, 1354B escritos

Se comenta la restricción de IP.

Ruta	Versión	Nombre a Mostrar	Ejecutándose	Sesiones	Comandos
/	Ninguno especificado	Welcome to Tomcat	true	0	Arrancar Parar Recargar Replegar Expirar sesiones sin trabajar ≥ 30 minutos
/docs	Ninguno especificado	Tomcat Documentation	true	0	Arrancar Parar Recargar Replegar Expirar sesiones sin trabajar ≥ 30 minutos
/examples	Ninguno especificado	Servlet and JSP Examples	true	0	Arrancar Parar Recargar Replegar Expirar sesiones sin trabajar ≥ 30 minutos
/host-manager	Ninguno especificado	Tomcat Host Manager Application	true	0	Arrancar Parar Recargar Replegar Expirar sesiones sin trabajar ≥ 30 minutos
/manager	Ninguno especificado	Tomcat Manager Application	true	1	Arrancar Parar Recargar Replegar Expirar sesiones sin trabajar ≥ 30 minutos

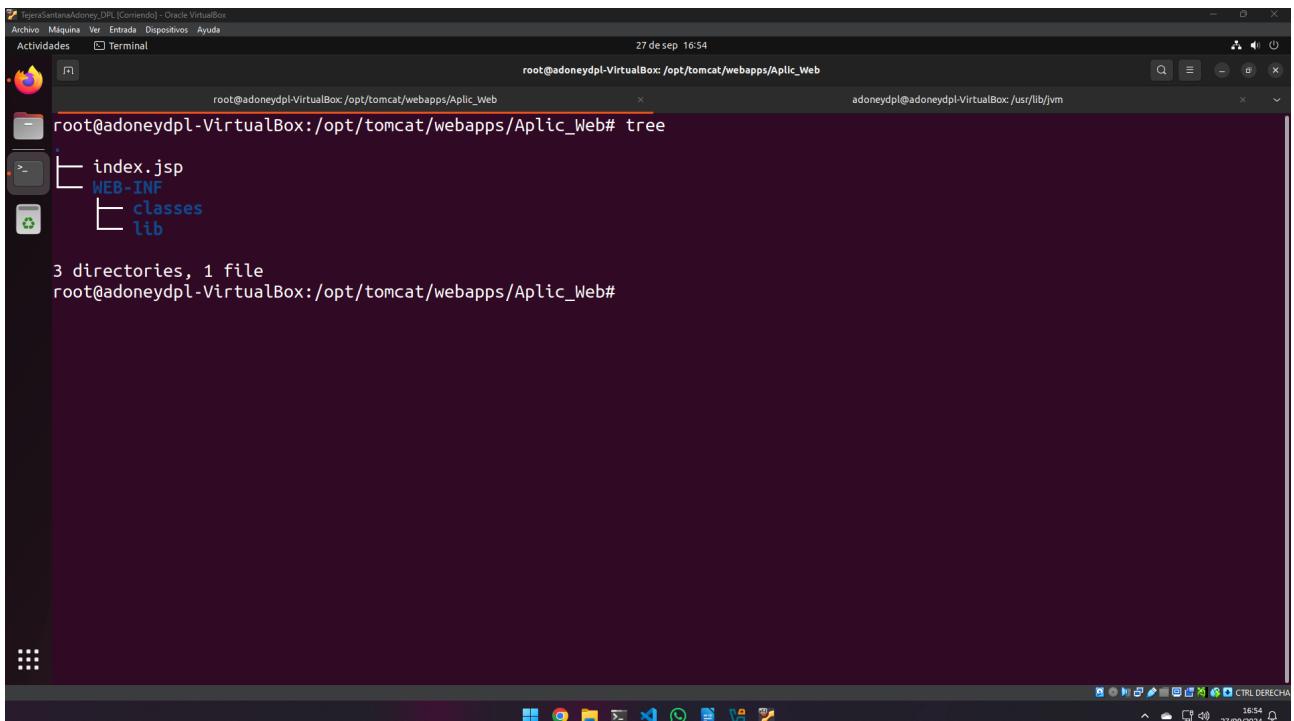
Desplegar
Desplegar directorio o archivo WAR localizado en servidor

Trayectoria de Contexto (opcional):
Version (for parallel deployment):
URL de archivo de Configuración XML:
URI de WAR o Directorio:

Se comprueba que funcione correctamente.

1.2. Despliegue de Apps

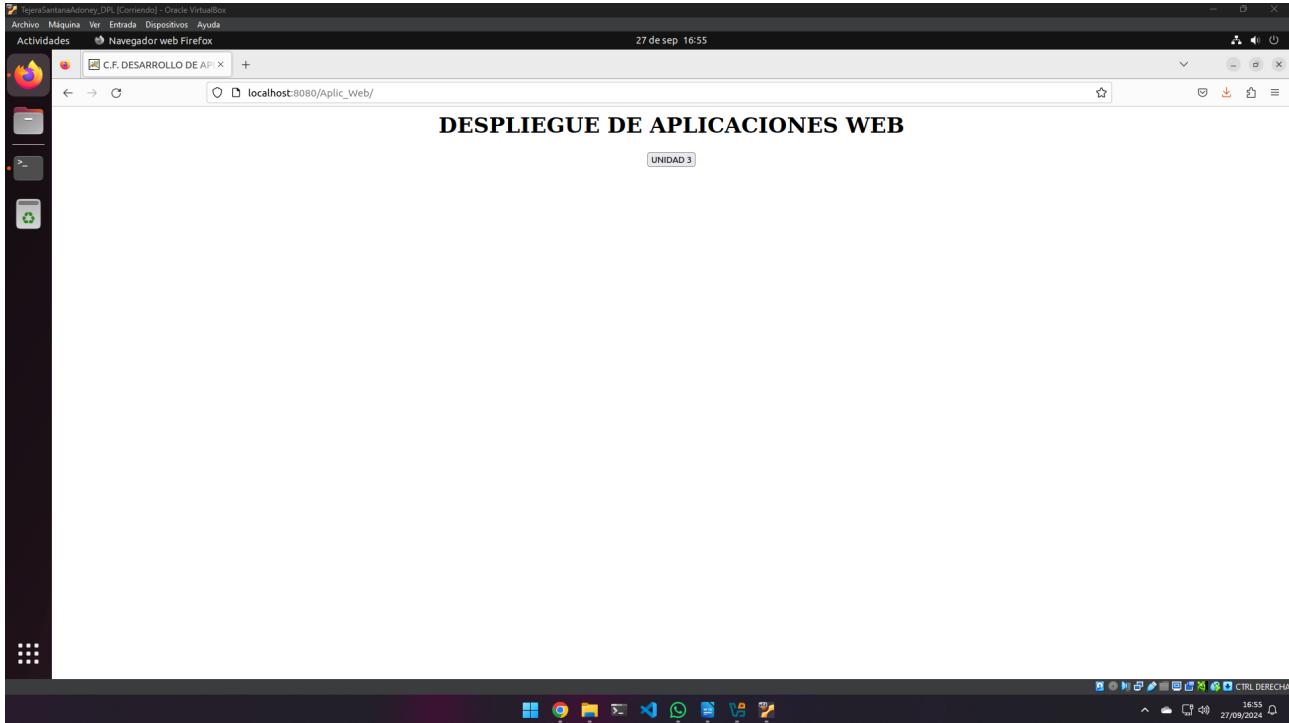
Crear una app web en la carpeta webapps de Tomcat, creando su estructura de directorios según el ejemplo facilitado en el apartado 3.1, en la guía de apps.



```
root@adoneydpl-VirtualBox:/opt/tomcat/webapps/APLIC_Web# tree
.
+- index.jsp
+- WEB-INF
|   +- classes
|   +- lib
3 directories, 1 file
root@adoneydpl-VirtualBox:/opt/tomcat/webapps/APLIC_Web#
```

Se crea la estructura de la aplicación.

1.3. Realizar el despliegue de una app web facilitada de acuerdo a los pasos indicados en el apartado 3.2 la guía de App web.



Se puede mostrar la página desde el servidor indicando el nombre de la carpeta.

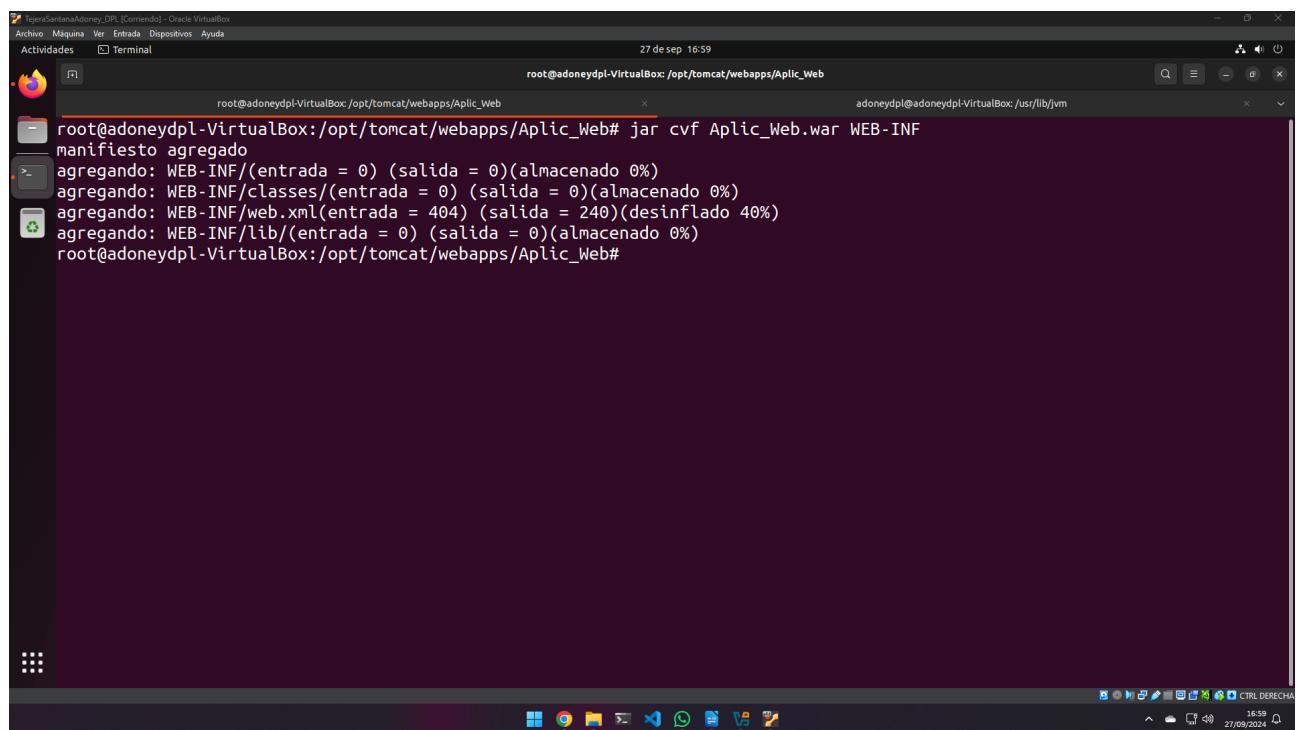
```
root@adoneydpl-VirtualBox: /opt/tomcat/webapps/Aplic_Web/WEB-INF
root@adoneydpl-VirtualBox: /opt/tomcat/webapps/Aplic_Web/WEB-INF
```

```
<?xml version="1.0" encoding="ISO-8859-1"?>
<web-app xmlns="http://java.sun.com/xml/ns/j2ee"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xsi:schemaLocation="http://java.sun.com/xml/ns/javaee http://java.sun.com/xml/ns/javaee/webapp_2_5.xsd"
  version="2.5">
  <display-name>Descriptor Aplicacion Aplic_Web</display-name>
  <description>
    Mi primer descriptor web.xml.
  </description>
</web-app>
```

Se crea el archivo descriptor de despliegue.

```
<?xml version="1.0" encoding="ISO-8859-1"?>
```

```
<web-app xmlns="http://java.sun.com/xml/ns/j2ee"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xsi:schemaLocation="http://java.sun.com/xml/ns/javaee
http://java.sun.com/xml/ns/javaee/webapp_2_5.xsd"
  version="2.5">[REDACTED]
  <display-name>Descriptor Aplicacion Aplic_Web</display-name>
  <description> Mi primer descriptor web.xml. </description>
</web-app>[REDACTED]
```

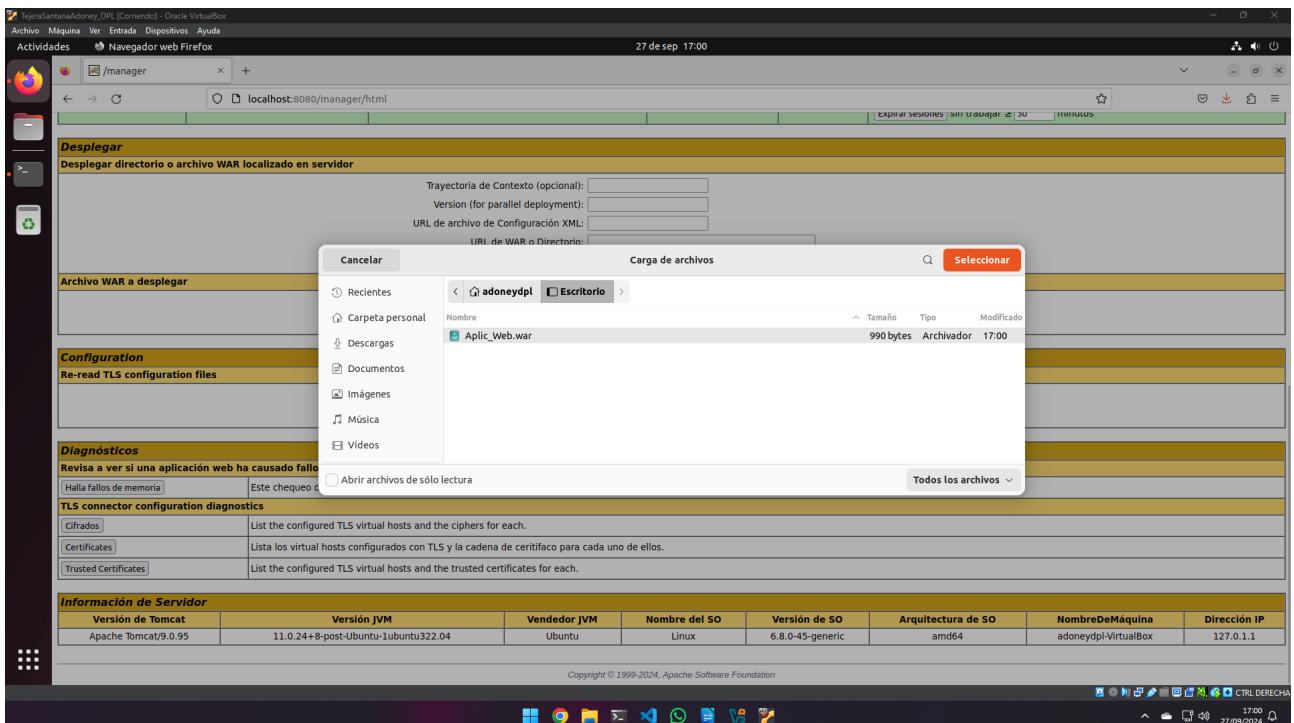


```
root@adoneydpl-VirtualBox:/opt/tomcat/webapps/Aplic_Web# jar cvf Aplic_Web.war WEB-INF
manifiesto agregado
agregando: WEB-INF/(entrada = 0) (salida = 0)(almacenado 0%)
agregando: WEB-INF/classes/(entrada = 0) (salida = 0)(almacenado 0%)
agregando: WEB-INF/web.xml(entrada = 404) (salida = 240)(desinflado 40%)
agregando: WEB-INF/lib/(entrada = 0) (salida = 0)(almacenado 0%)
root@adoneydpl-VirtualBox:/opt/tomcat/webapps/Aplic_Web#
```

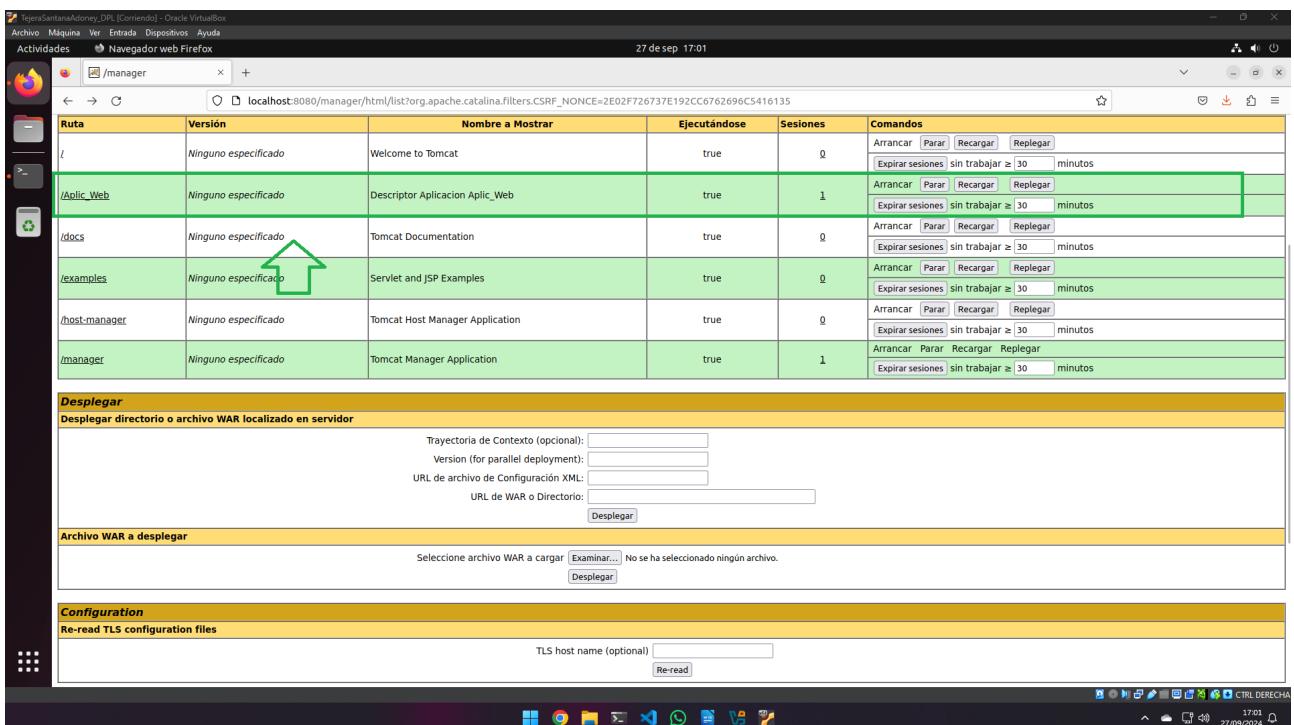
Se crea el fichero WAR.

```
javac -d WEB-INF/classes *.java
```

```
jar cvf Aplic_Web.war WEB-INF
```



Se despliega la aplicación con el fichero WAR.



Ahora se ve mostrado la aplicación.