

Tarea UD3

Despregramento de Aplicacións Web

24/25

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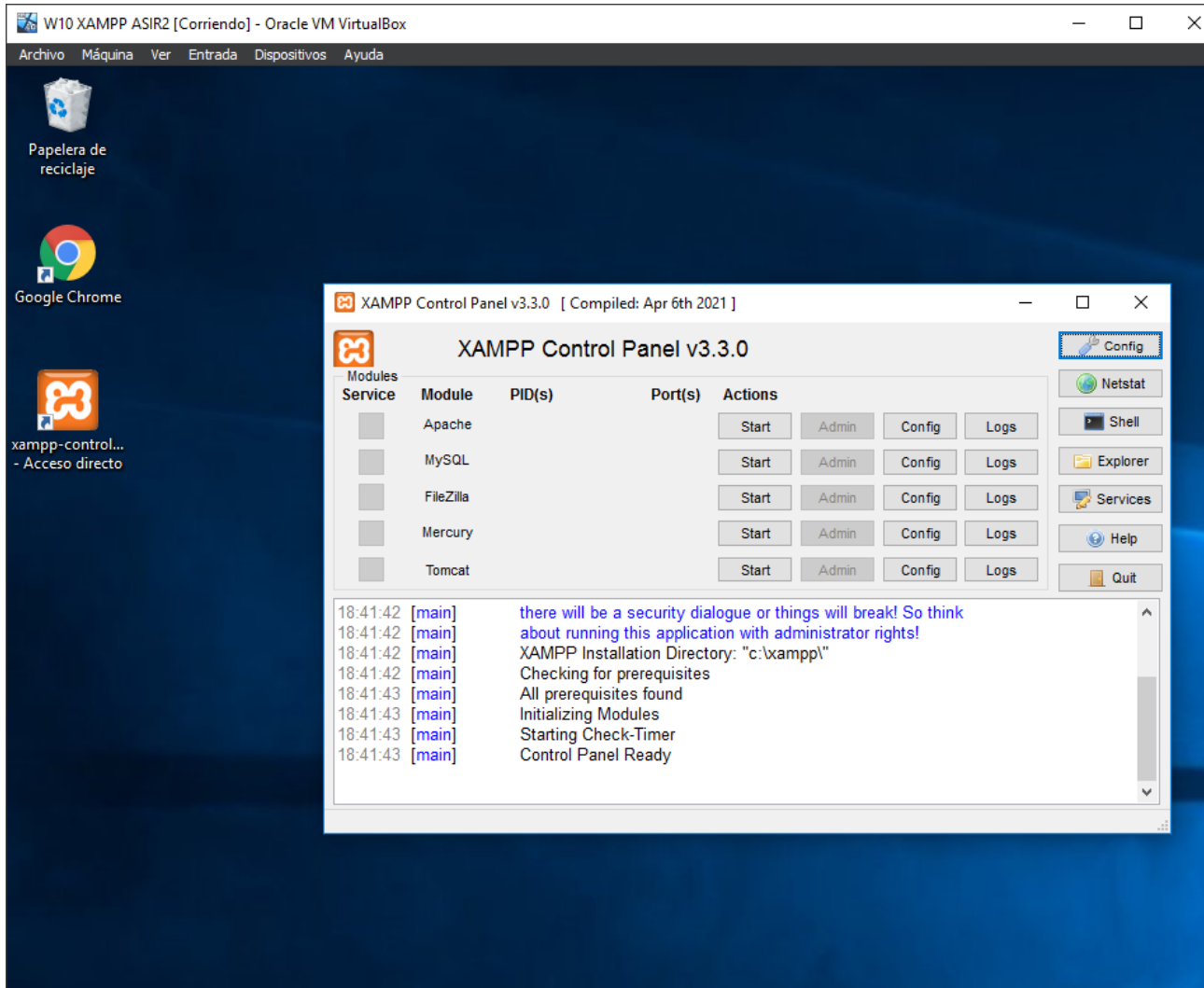
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1. Funcionamiento de Tomcat en Windows con XAMPP

Se te facilita una máquina Windows, que ya viene con un Xampp operativo. Se te pide.

a. Arranque y configuración inicial

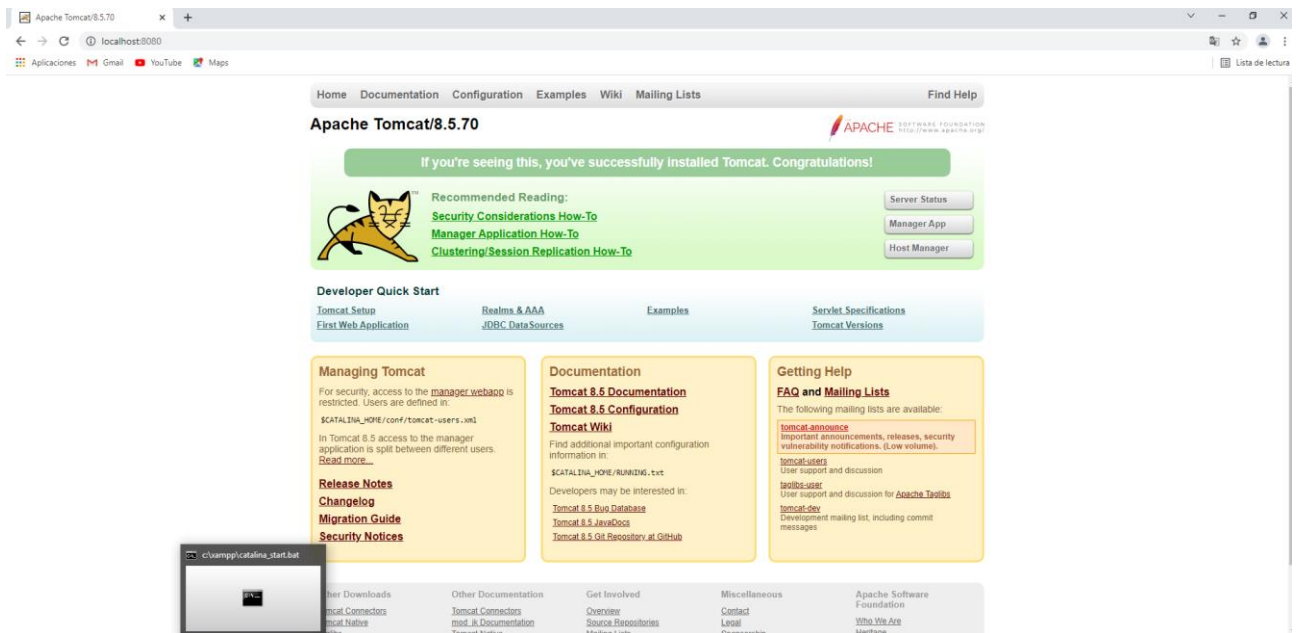
Configura para que arranque, y se pueda acceder a su página principal



Abrimos xampp y veremos que nos aparece Tomcat, podemos darle a Start para incializar el servicio.

SERVIDOR DE APLICACIONES – APACHE TOMCAT

Y ahora accedemos a <http://localhost:8080>

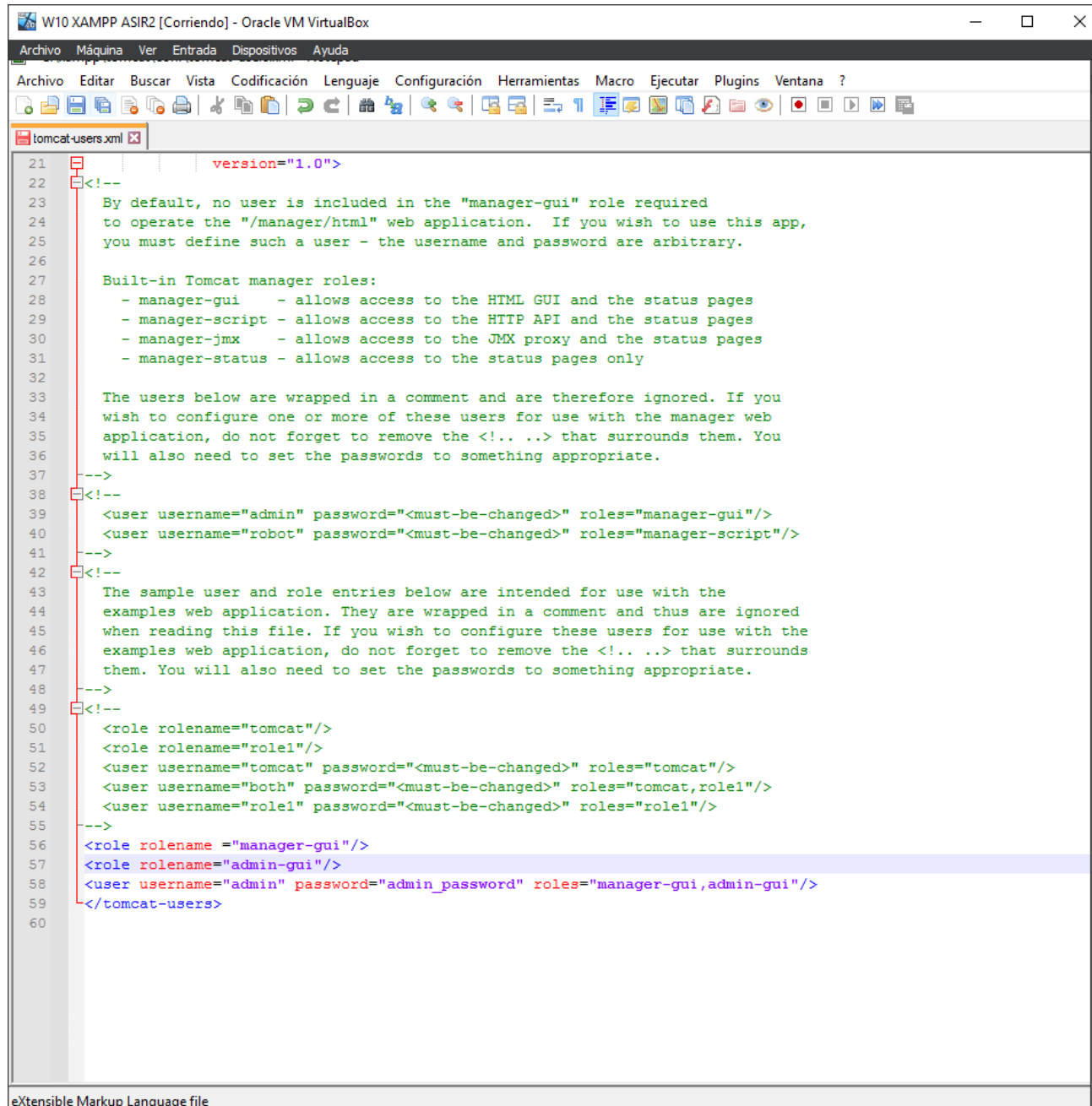


b. Acceso a opciones de gestión y administración

Configúralo para que pueda acceder a server status, Manager App y Host Manager

Pistas:

Guide to Tomcat Manager Application | Baeldung



```

21 <!-- version="1.0" -->
22
23 By default, no user is included in the "manager-gui" role required
24 to operate the "/manager/html" web application. If you wish to use this app,
25 you must define such a user - the username and password are arbitrary.
26
27 Built-in Tomcat manager roles:
28 - manager-gui - allows access to the HTML GUI and the status pages
29 - manager-script - allows access to the HTTP API and the status pages
30 - manager-jmx - allows access to the JMX proxy and the status pages
31 - manager-status - allows access to the status pages only
32
33 The users below are wrapped in a comment and are therefore ignored. If you
34 wish to configure one or more of these users for use with the manager web
35 application, do not forget to remove the <!-- ... --> that surrounds them. You
36 will also need to set the passwords to something appropriate.
37
38 <!--
39 <user username="admin" password="<must-be-changed>" roles="manager-gui"/>
40 <user username="robot" password="<must-be-changed>" roles="manager-script"/>
41 -->
42 <!--
43 The sample user and role entries below are intended for use with the
44 examples web application. They are wrapped in a comment and thus are ignored
45 when reading this file. If you wish to configure these users for use with the
46 examples web application, do not forget to remove the <!-- ... --> that surrounds
47 them. You will also need to set the passwords to something appropriate.
48
49 <!--
50 <role rolename="tomcat"/>
51 <role rolename="role1"/>
52 <user username="tomcat" password="<must-be-changed>" roles="tomcat"/>
53 <user username="both" password="<must-be-changed>" roles="tomcat,role1"/>
54 <user username="role1" password="<must-be-changed>" roles="role1"/>
55 -->
56 <role rolename="manager-gui"/>
57 <role rolename="admin-gui"/>
58 <user username="admin" password="admin_password" roles="manager-gui,admin-gui"/>
59 </tomcat-users>
60

```

Colocamos los roles y el usuario junto a la contraseña dentro del archivo tomcat-users.xml

La ruta: C:\xampp\tomcat\conf\tomcat-users.xml

SERVIDOR DE APLICACIONES – APACHE TOMCAT

c. Ejemplos

Muestra su funcionamiento con alguno de los ejemplos disponibles

Accedemos a manager:

The screenshot shows the Apache Tomcat Manager web application running in a browser. The page title is "Gestor de Aplicaciones Web de Tomcat". It features a navigation bar with links: "Listar Aplicaciones", "Ayuda HTML de Gestor", "Ayuda de Gestor", and "Estado de Servidor". The main content area displays a table of applications:

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

Below the table is a "Desplegar" section with input fields for "Trayectoria de Contexto (opcional)", "URL de archivo de Configuración XML", and "URL de WAR o Directorio", and a "Desplegar" button.

Accedemos a manager status:

The screenshot shows the "Estado de Servidor" (Server Status) page of the Apache Tomcat Manager. It includes a navigation bar with links: "Listar Aplicaciones", "Ayuda HTML de Gestor", "Ayuda de Gestor", and "Estado Completo de Servidor". The main content area displays server information:

Información de Servidor

Versión de Tomcat	Versión JVM	Vendedor JVM	Nombre del SO	Versión de SO	Arquitectura de SO	NombreDeMáquina	Dirección IP
Apache Tomcat/8.5.70	1.8.0_251-b12	Oracle Corporation	Windows 10	10.0	amd64	base	10.0.2.15

JVM

Memoria disponible: 46.31 MB Total Memory: 89.00 MB Max Memory: 1820.50 MB

Pool de Memoria	Type	Initial	Total	Maximum	Used
PS Eden Space	Heap memory	32.50 MB	32.50 MB	672.50 MB	30.31 MB (4%)
PS Old Gen	Heap memory	85.50 MB	51.50 MB	1365.50 MB	12.36 MB (0%)
PS Survivor Space	Heap memory	5.00 MB	5.00 MB	5.00 MB	0.00 MB (0%)
Code Cache	Non-heap memory	2.43 MB	9.68 MB	240.00 MB	9.57 MB (3%)
Compressed Class Space	Non-heap memory	0.00 MB	2.67 MB	1024.00 MB	2.47 MB (0%)
Metaspace	Non-heap memory	0.00 MB	24.92 MB	-0.00 MB	24.34 MB

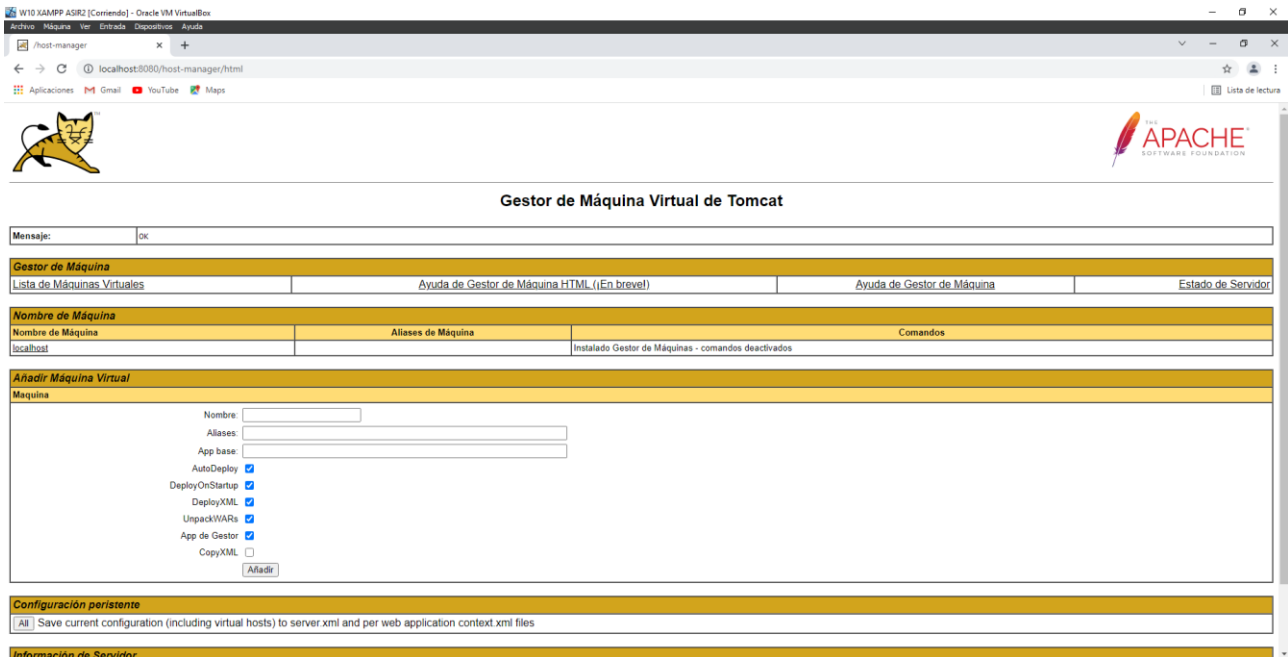
"http-nio-8080"

Max threads: 200 Current thread count: 10 Current threads busy: 1 Keep alive sockets count: 1
Max processing time: 1144 ms Tiempo de procesamiento: 1.404 s Request count: 10 Error count: 1 Bytes received: 0.00 MB Bytes sent: 0.07 MB

Stage	Time	Bytes Sent	Bytes Recv	Client (Forwarded)	Client (Actual)	VHost	Solicitud
R	?	?	?	?	?	?	?
R	?	?	?	?	?	?	?
S	40 ms	0 KB	0 KB	0.0.0.0:0.0:1	0.0.0.0:0.0:1	localhost	GET /manager/status HTTP/1.1
R	?	?	?	?	?	?	?
R	?	?	?	?	?	?	?
R	?	?	?	?	?	?	?

SERVIDOR DE APLICACIONES – APACHE TOMCAT

Accedemos a host manager:



d. Despliega tu propia aplicación web

Despliega un fichero Sample.war, y comprueba que puedes acceder a a la aplicación

Pistas:

Apache Tomcat 11 (11.0.0-M16) - Tomcat Web Application Deployment

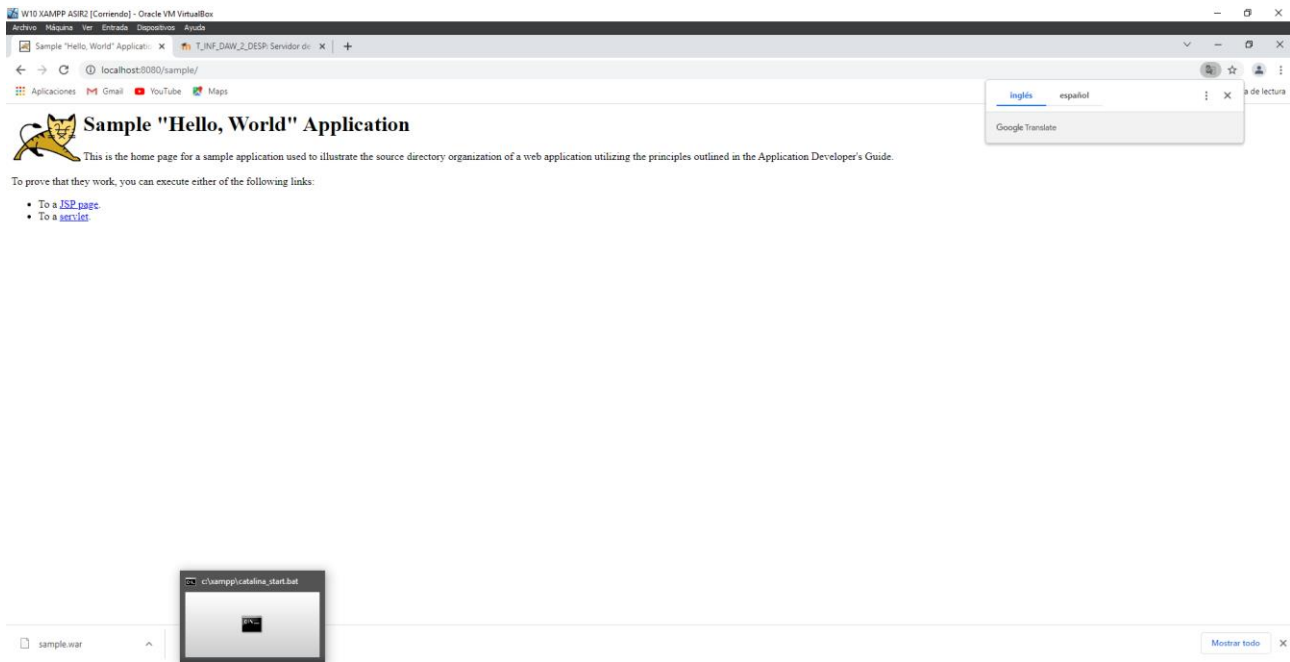
How to Deploy a WAR File to Tomcat | Baeldung

Tomcat Manager y su configuración - Arquitectura Java

Copiamos el archivo Sample.war dentro de xampp\tomcats\webapps

Tomcat detectara automáticamente el sample.war y lo descomprimirá automáticamente, para acceder a el colocamos <http://localhost:8080/sample>

SERVIDOR DE APLICACIONES – APACHE TOMCAT



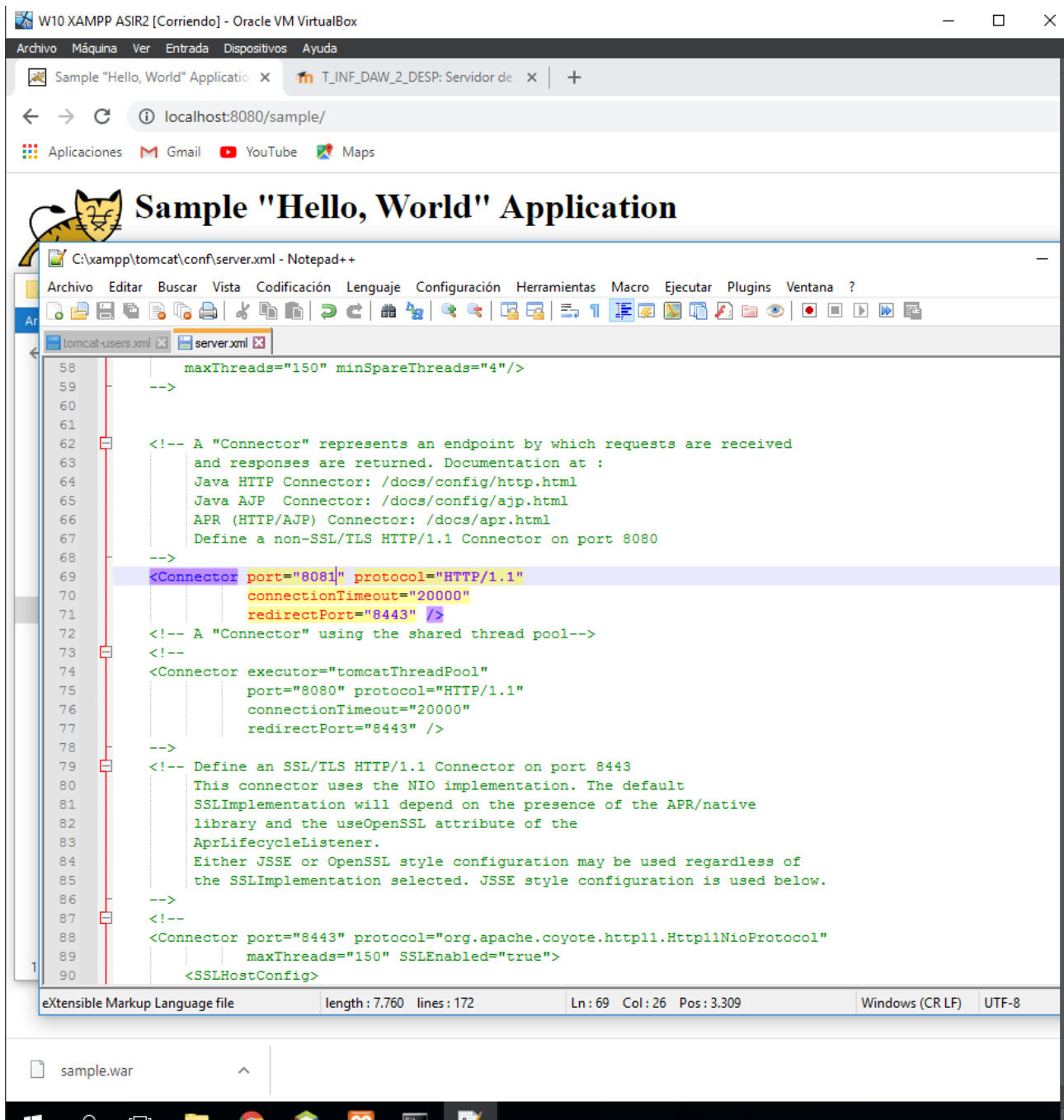
e. Cambia el puerto donde escucha Tomcat

Pista:

Change the Default Port of the Tomcat Server (microfocus.com)

SERVIDOR DE APLICACIONES – APACHE TOMCAT

Entramos en C:\xampp\tomcat\conf\server.xml



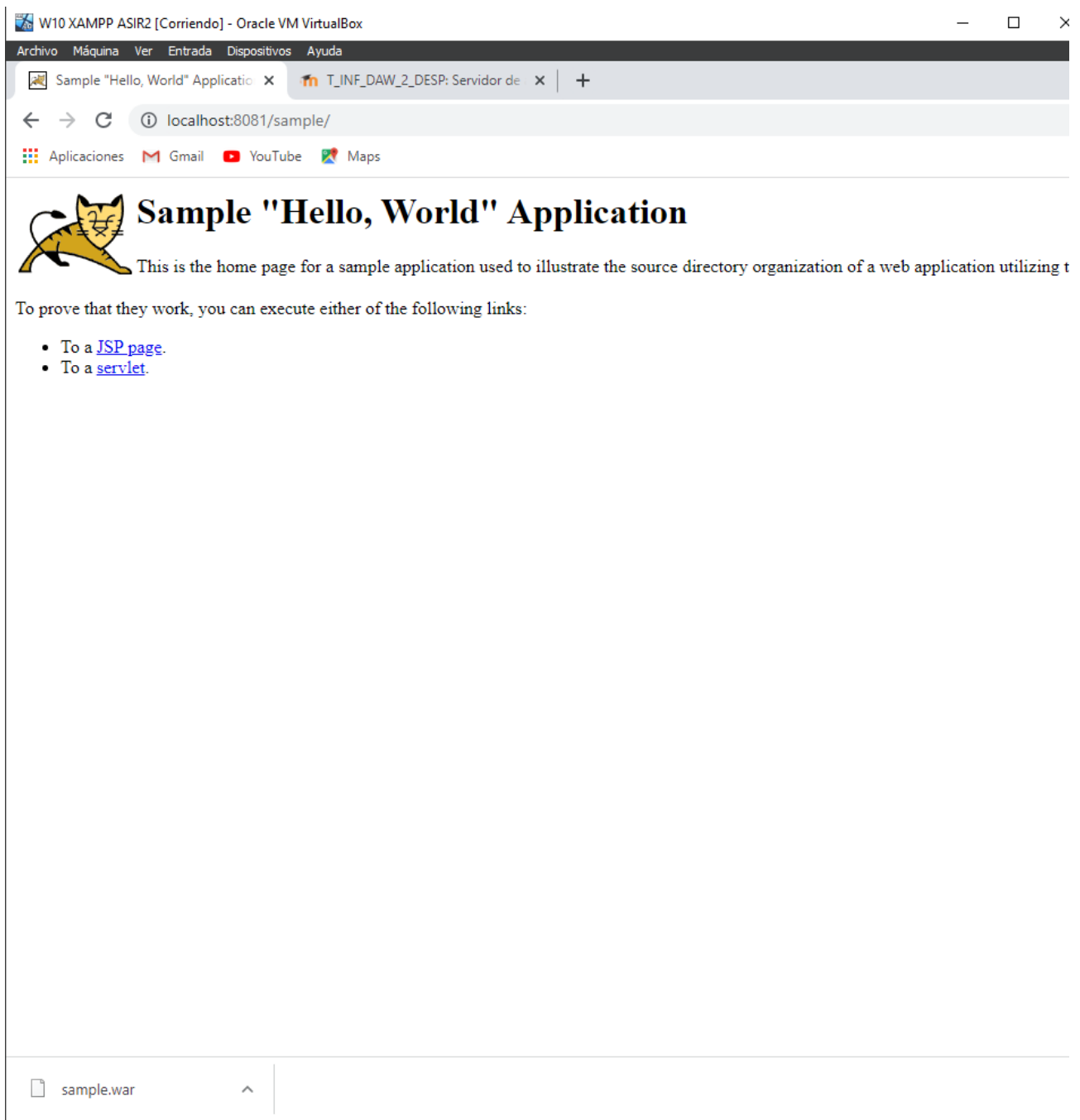
The screenshot shows a web browser window at the top displaying a "Sample 'Hello, World' Application" with a cat icon. Below the browser is a Notepad++ window editing the file C:\xampp\tomcat\conf\server.xml. The XML code is as follows:

```
58      maxThreads="150" minSpareThreads="4"/>
59      -->
60
61
62      <!-- A "Connector" represents an endpoint by which requests are received
63           and responses are returned. Documentation at :
64           Java HTTP Connector: /docs/config/http.html
65           Java AJP  Connector: /docs/config/ajp.html
66           APR (HTTP/AJP) Connector: /docs/apr.html
67           Define a non-SSL/TLS HTTP/1.1 Connector on port 8080
68      -->
69      <Connector port="8081" protocol="HTTP/1.1"
70                connectionTimeout="20000"
71                redirectPort="8443" />
72
73      <!-- A "Connector" using the shared thread pool-->
74      <!--
75      <Connector executor="tomcatThreadPool"
76                port="8080" protocol="HTTP/1.1"
77                connectionTimeout="20000"
78                redirectPort="8443" />
79
80      <!-- Define an SSL/TLS HTTP/1.1 Connector on port 8443
81           This connector uses the NIO implementation. The default
82           SSLImplementation will depend on the presence of the APR/native
83           library and the useOpenSSL attribute of the
84           AprLifecycleListener.
85           Either JSSE or OpenSSL style configuration may be used regardless of
86           the SSLImplementation selected. JSSE style configuration is used below.
87      -->
88      <!--
89      <Connector port="8443" protocol="org.apache.coyote.http11.Http11NioProtocol"
90                maxThreads="150" SSLEnabled="true">
91          <SSLHostConfig>
```

The status bar at the bottom of the Notepad++ window indicates: "eXtensible Markup Language file", "length: 7.760 lines: 172", "Ln: 69 Col: 26 Pos: 3.309", "Windows (CR LF)", and "UTF-8".

Y cambiamos el puerto por 8081 o por el que nosotros queramos.

Y ahora ya podremos acceder desde el 8081:



2. Instalación, configuración y funcionamiento de Tomcat en Linux

a) Instala y realiza configuración para que pueda acceder a server status, Manager App y Host Manager

Instalar tomcat:

```
xubu@xubu-VirtualBox:~$ wget https://downloads.apache.org/tomcat/tomcat-10/v10.0.22/bin/apache-tomcat-10.0.22.tar.gz
```

Corregí este comando ya que la versión no era la óptima:

wget <https://dldcn.apache.org/tomcat/tomcat-11/v11.0.1/bin/apache-tomcat-11.0.1.tar.gz>

Y extraemos el archivo:

```
sudo tar -xzf apache-tomcat-11.0.1.tar.gz -C /opt/
```

Damos permisos al directorio

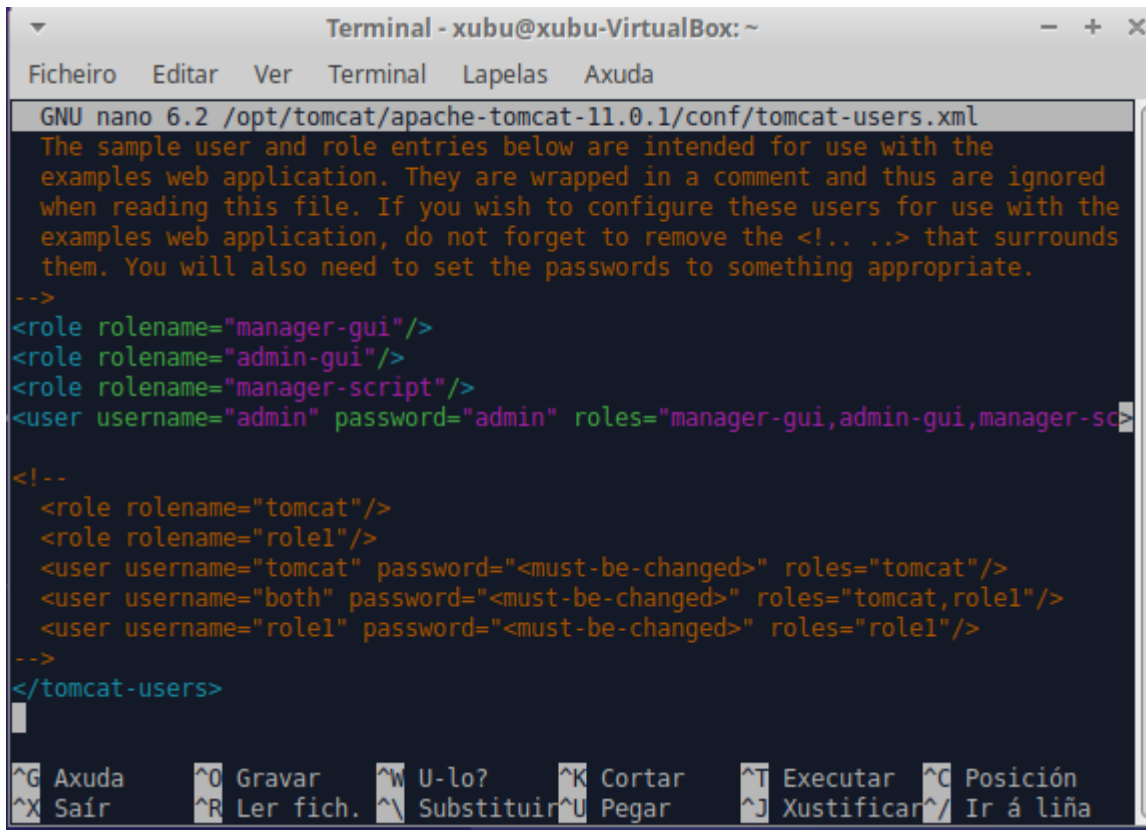
```
xubu@xubu-VirtualBox:/opt/tomcat/apache-tomcat-11.0.1/bin$ sudo chmod +x /opt/tomcat/apache-tomcat-11.0.1/bin/*.sh
```

E iniciamos TomCat:

```
xubu@xubu-VirtualBox:/opt/tomcat/apache-tomcat-11.0.1/bin$ sudo /opt/tomcat/apache-tomcat-11.0.1/bin/startup.sh
Using CATALINA_BASE:   /opt/tomcat/apache-tomcat-11.0.1
Using CATALINA_HOME:   /opt/tomcat/apache-tomcat-11.0.1
Using CATALINA_TMPDIR: /opt/tomcat/apache-tomcat-11.0.1/temp
Using JRE_HOME:        /usr
Using CLASSPATH:       /opt/tomcat/apache-tomcat-11.0.1/bin/bootstrap.jar:/opt/tomcat/apache-tomcat-11.0.1/bin/tomcat-juli.jar
Using CATALINA_OPTS:
Tomcat started.
xubu@xubu-VirtualBox:/opt/tomcat/apache-tomcat-11.0.1/bin$
```

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Ahora entramos dentro del xml de tomcat users y añadimos lo siguiente:



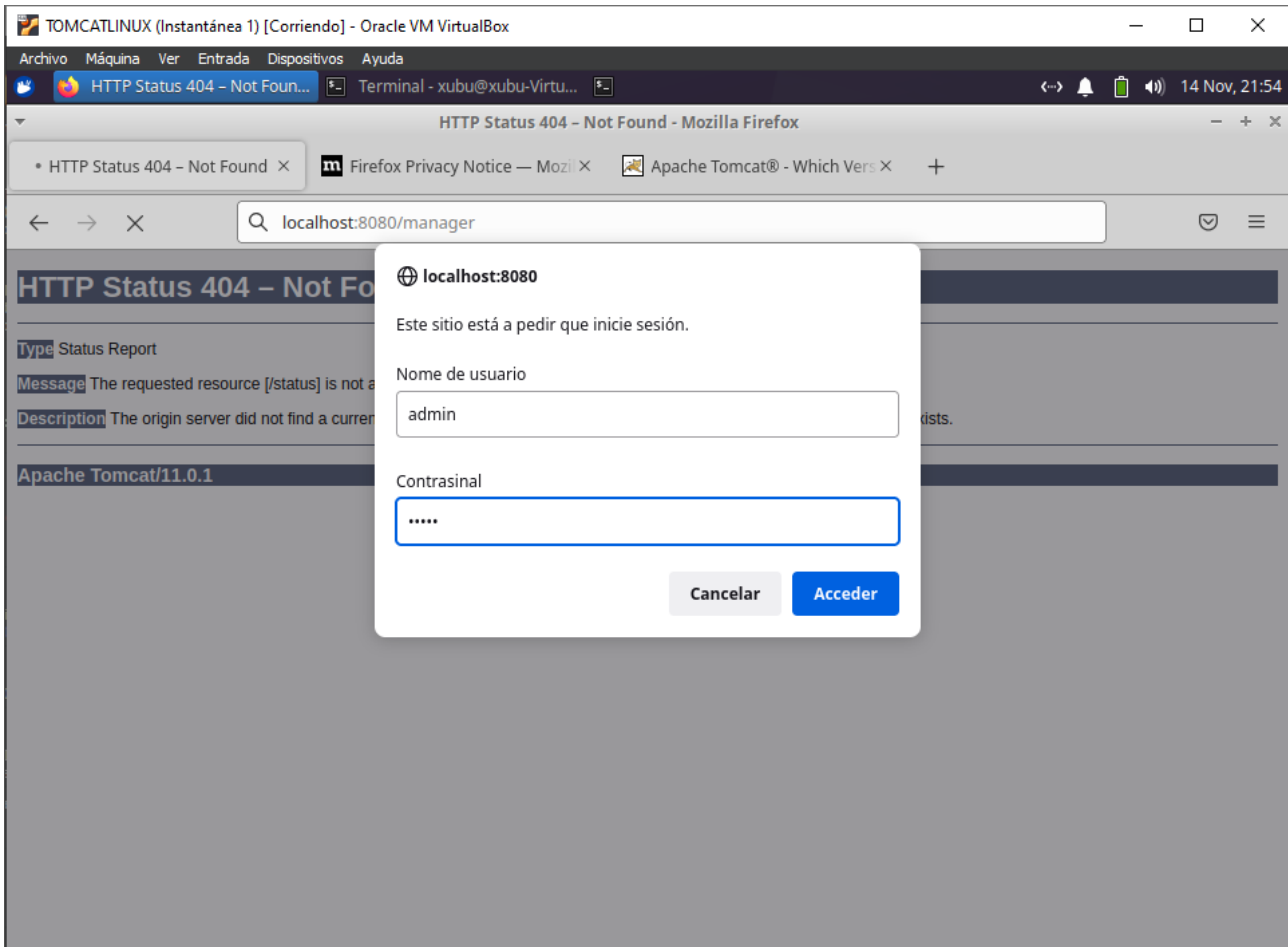
```
Terminal - xubu@xubu-VirtualBox: ~
Ficheiro  Editar  Ver  Terminal  Lapelas  Axuda

GNU nano 6.2 /opt/tomcat/apache-tomcat-11.0.1/conf/tomcat-users.xml
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="manager-gui"/>
<role rolename="admin-gui"/>
<role rolename="manager-script"/>
<user username="admin" password="admin" roles="manager-gui,admin-gui,manager-sc>
<!--
  <role rolename="tomcat"/>
  <role rolename="role1"/>
  <user username="tomcat" password="<must-be-changed>" roles="tomcat"/>
  <user username="both" password="<must-be-changed>" roles="tomcat,role1"/>
  <user username="role1" password="<must-be-changed>" roles="role1"/>
-->
</tomcat-users>

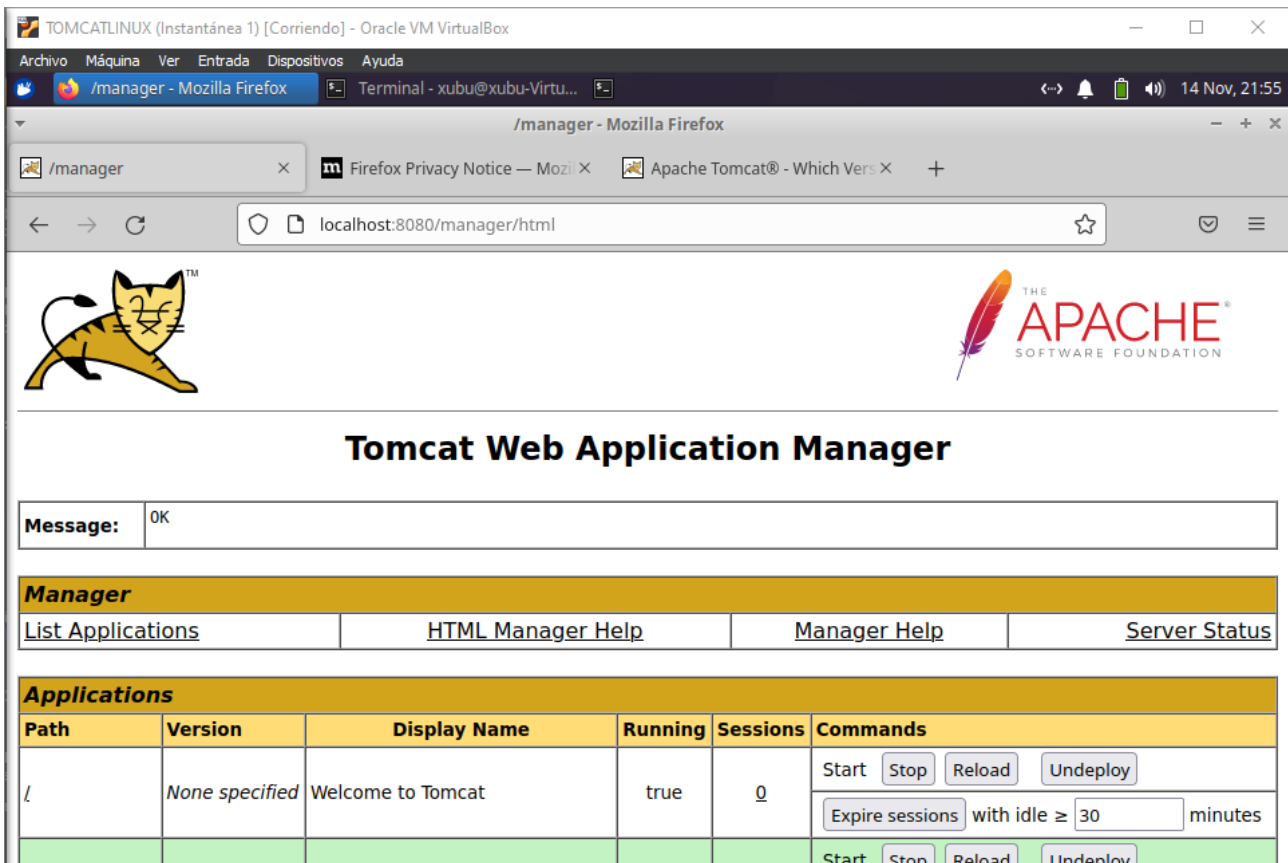
^G Axuda    ^O Gravar   ^W U-lo?    ^K Cortar   ^T Executar ^C Posición
^X Saír     ^R Ler fich.^_ Substituir^U Pegar    ^J Xustificar^_/ Ir á liña
```

SERVIDOR DE APLICACIONES – APACHE TOMCAT

Y ahora probamos si nos deja acceder e intentamos acceder a manager:



Y después de poner los credenciales username:admin password:admin, ya nos dejaría entrar:



Nombre y apellidos:

SERVIDOR DE APLICACIONES – APACHE TOMCAT

Y ahora hacemos lo mismo con el host-manager, rellenamos con los mismo credenciales y ya funcionaria.



TOMCATLINUX (Instantánea 1) [Corriendo] - Oracle VM VirtualBox

Archivo Máquina Ver Entrada Dispositivos Ayuda

/host-manager - Mozilla Fire... Terminal - xubu@xubu-Virtu... 14 Nov, 21:56

/host-manager - Mozilla Firefox

localhost:8080/host-manager/html



Tomcat Virtual Host Manager

Message: OK

Host Manager

List Virtual Hosts	HTML Host Manager Help	Host Manager Help	Server Status
------------------------------------	--	-----------------------------------	-------------------------------

Host name

Host name	Host aliases	Commands
localhost		Host Manager installed - commands disabled

Add Virtual Host

Host

Name:

Aliases:

App base:

AutoDeploy ☒

DeployOnStartup ☒

DeployXML ☒

UnpackWARs ☒

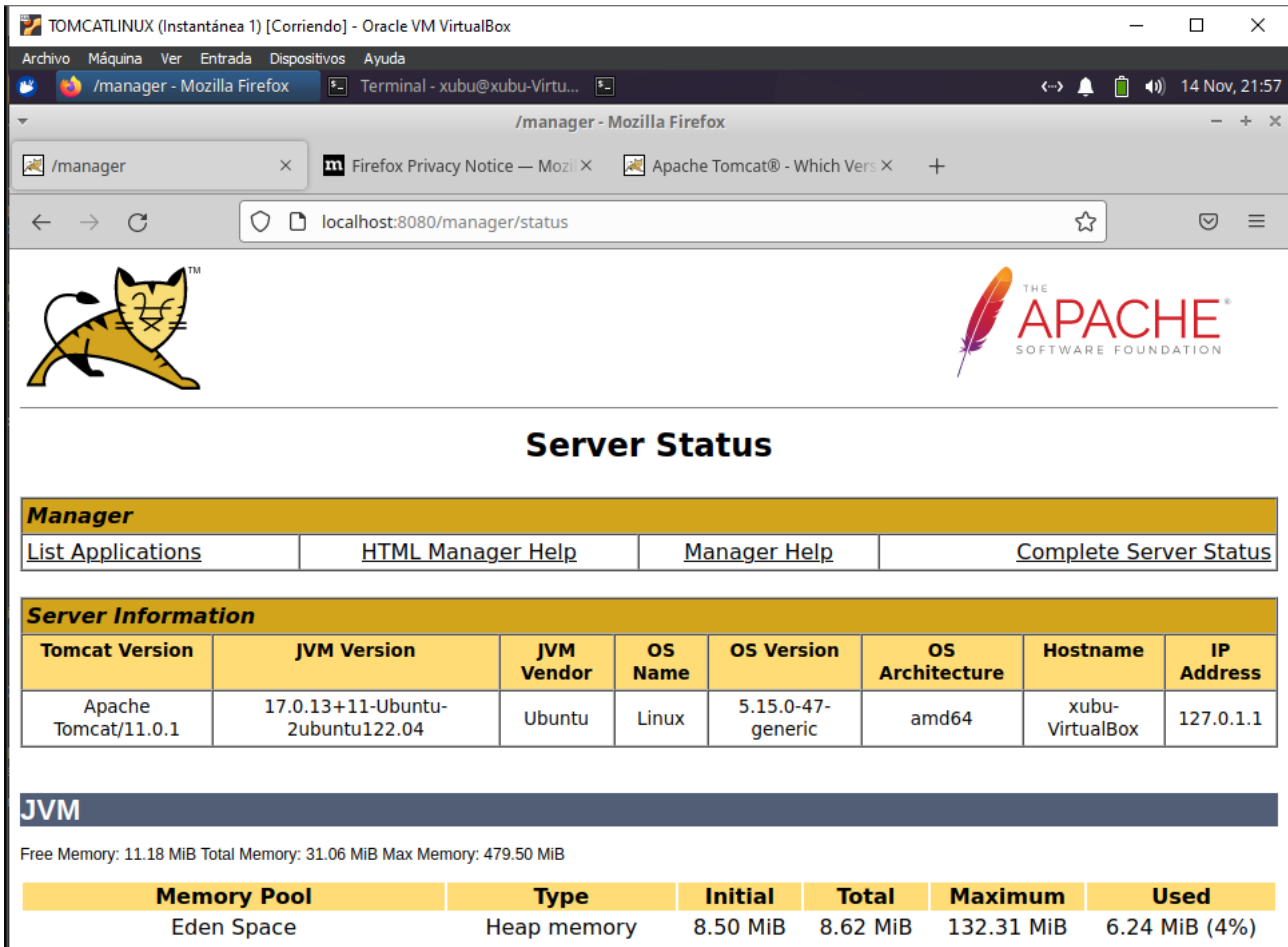
Manager App ☒

CopyXML ☐

Add

SERVIDOR DE APLICACIONES – APACHE TOMCAT

Y accedemos a status:



Server Status

Manager

[List Applications](#) | [HTML Manager Help](#) | [Manager Help](#) | [Complete Server Status](#)

Server Information

Tomcat Version	JVM Version	JVM Vendor	OS Name	OS Version	OS Architecture	Hostname	IP Address
Apache Tomcat/11.0.1	17.0.13+11-Ubuntu-2ubuntu122.04	Ubuntu	Linux	5.15.0-47-generic	amd64	xubu-VirtualBox	127.0.1.1

JVM

Free Memory: 11.18 MiB Total Memory: 31.06 MiB Max Memory: 479.50 MiB

Memory Pool	Type	Initial	Total	Maximum	Used
Eden Space	Heap memory	8.50 MiB	8.62 MiB	132.31 MiB	6.24 MiB (4%)

Pista:

How To Install Apache Tomcat 10 on Ubuntu 20.04 | DigitalOcean

b. Despliega tu propia aplicación web

Despliega un fichero Sample.war, y comprueba que puedes acceder a la aplicación

Pistas:

Apache Tomcat 11 (11.0.0-M16) - Tomcat Web Application Deployment

How to Deploy a WAR File to Tomcat | Baeldung

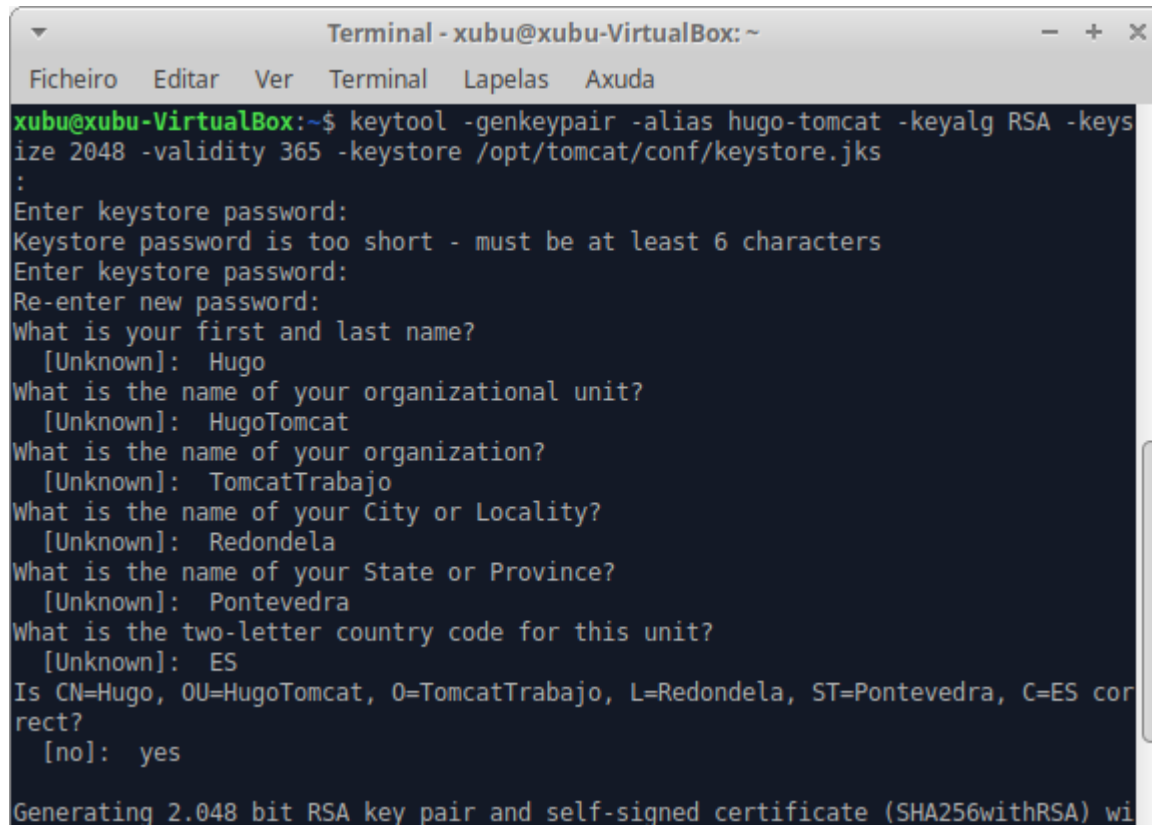
Nombre y apellidos:

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3. Securización

Configura para que el acceso sea seguro mediante certificados SSL, accediendo por HTTPS

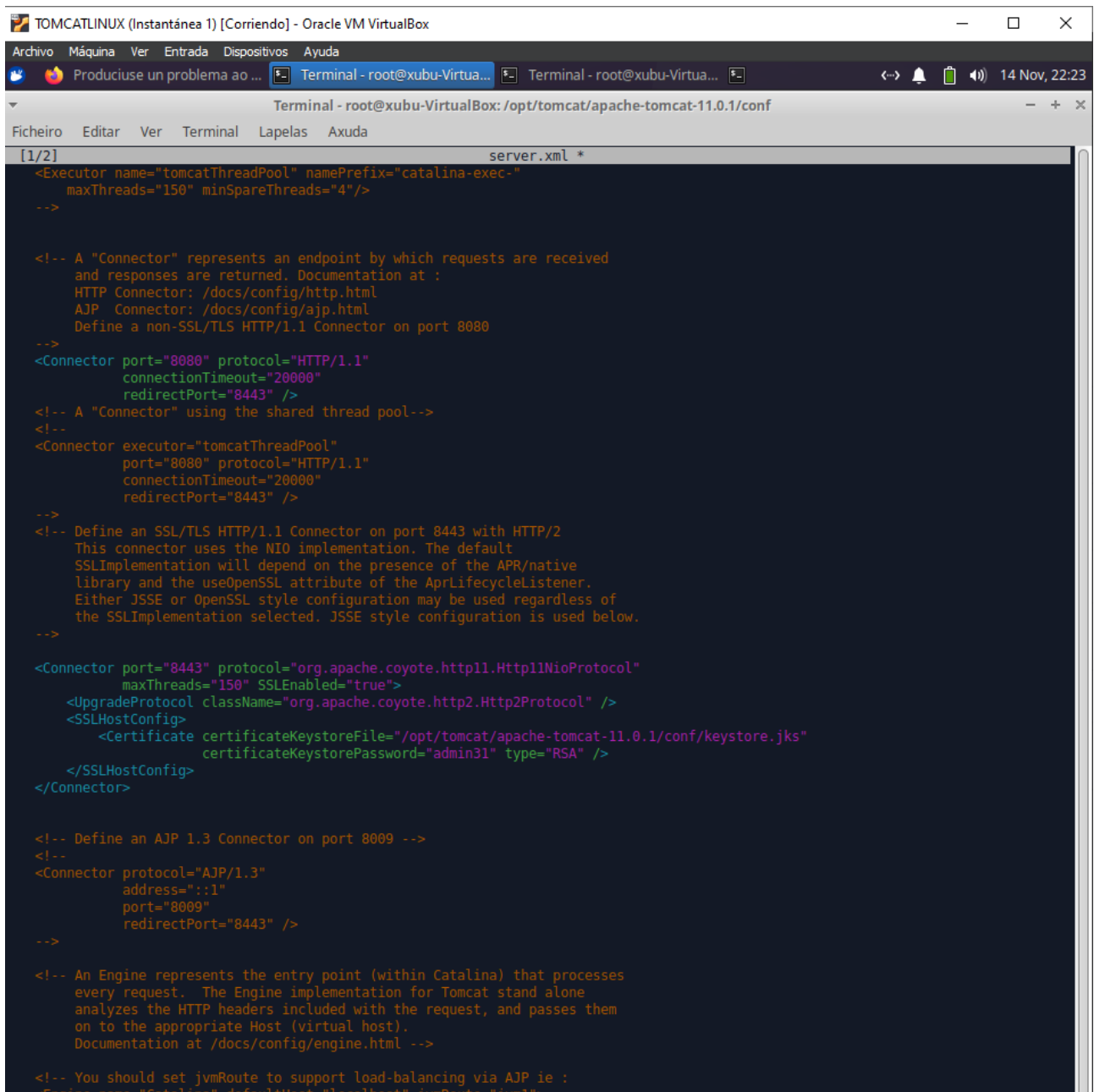
Generamos nuestro certificado con el siguiente comando:



```
Terminal - xubu@xubu-VirtualBox: ~
Ficheiro  Editar  Ver  Terminal  Lapelas  Axuda
xubu@xubu-VirtualBox:~$ keytool -genkeypair -alias hugo-tomcat -keyalg RSA -keysize 2048 -validity 365 -keystore /opt/tomcat/conf/keystore.jks
:
Enter keystore password:
Keystore password is too short - must be at least 6 characters
Enter keystore password:
Re-enter new password:
What is your first and last name?
  [Unknown]:  Hugo
What is the name of your organizational unit?
  [Unknown]:  HugoTomcat
What is the name of your organization?
  [Unknown]:  TomcatTrabajo
What is the name of your City or Locality?
  [Unknown]:  Redondela
What is the name of your State or Province?
  [Unknown]:  Pontevedra
What is the two-letter country code for this unit?
  [Unknown]:  ES
Is CN=Hugo, OU=HugoTomcat, O=TomcatTrabajo, L=Redondela, ST=Pontevedra, C=ES correct?
  [no]:  yes
Generating 2.048 bit RSA key pair and self-signed certificate (SHA256withRSA) wi
```


SERVIDOR DE APLICACIONES – APACHE TOMCAT

Ahora hay que descomentar el connector con el puerto 8443 que es el puerto seguro de SSL:



```
[1/2] server.xml *
<Executor name="tomcatThreadPool" namePrefix="catalina-exec-"
  maxThreads="150" minSpareThreads="4"/>
-->

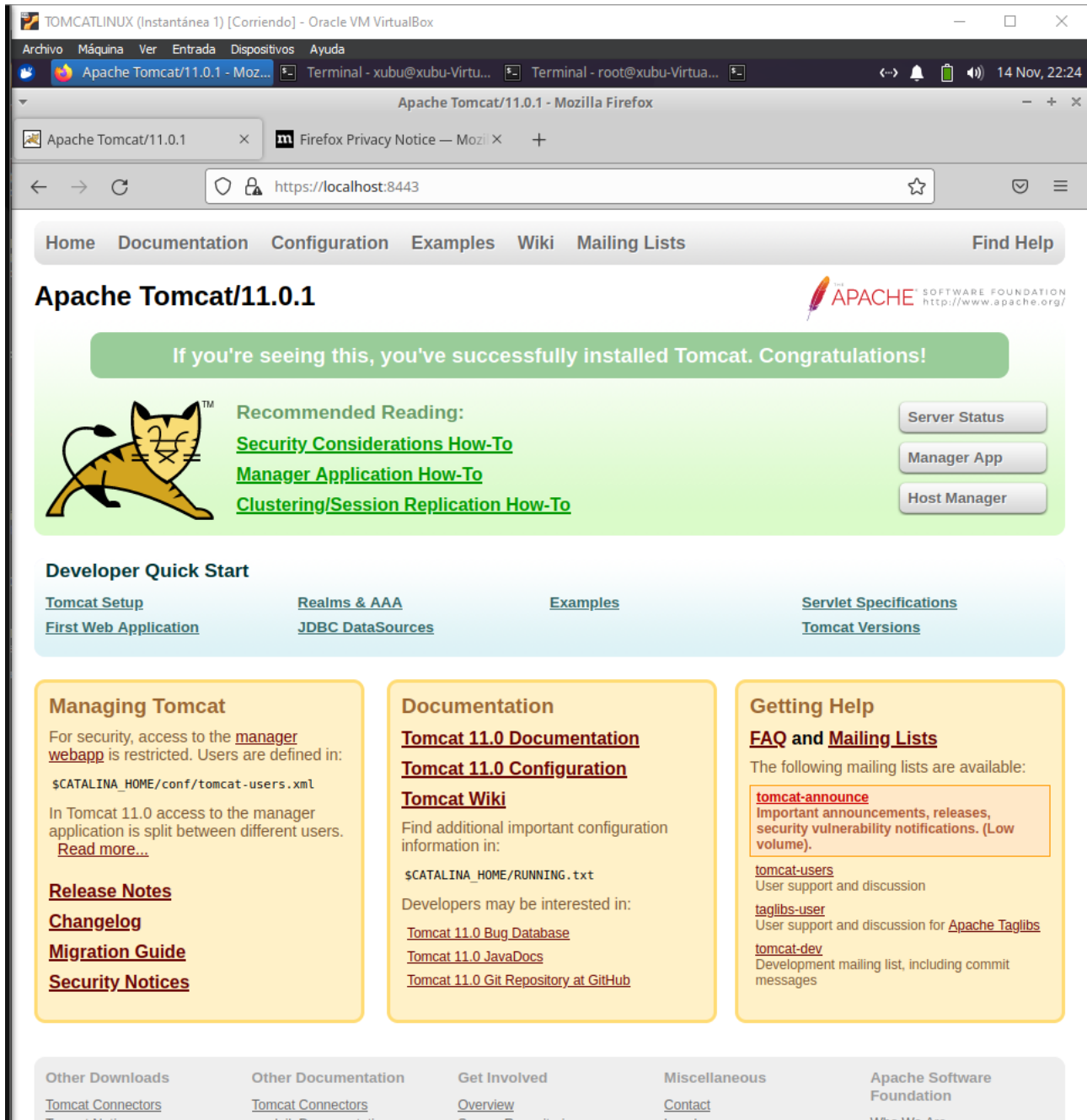
<!-- A "Connector" represents an endpoint by which requests are received
and responses are returned. Documentation at :
HTTP Connector: /docs/config/http.html
AJP  Connector: /docs/config/ajp.html
Define a non-SSL/TLS HTTP/1.1 Connector on port 8080
-->
<Connector port="8080" protocol="HTTP/1.1"
  connectionTimeout="20000"
  redirectPort="8443" />
<!-- A "Connector" using the shared thread pool-->
<!--
<Connector executor="tomcatThreadPool"
  port="8080" protocol="HTTP/1.1"
  connectionTimeout="20000"
  redirectPort="8443" />
-->
<!-- Define an SSL/TLS HTTP/1.1 Connector on port 8443 with HTTP/2
This connector uses the NIO implementation. The default
SSLImplementation will depend on the presence of the APR/native
library and the useOpenSSL attribute of the AprLifecycleListener.
Either JSSE or OpenSSL style configuration may be used regardless of
the SSLImplementation selected. JSSE style configuration is used below.
-->
<Connector port="8443" protocol="org.apache.coyote.http11.Http11NioProtocol"
  maxThreads="150" SSLEnabled="true">
  <UpgradeProtocol className="org.apache.coyote.http2.Http2Protocol" />
  <SSLHostConfig>
    <Certificate certificateKeystoreFile="/opt/tomcat/apache-tomcat-11.0.1/conf/keystore.jks"
      certificateKeystorePassword="admin31" type="RSA" />
  </SSLHostConfig>
</Connector>

<!-- Define an AJP 1.3 Connector on port 8009 -->
<!--
<Connector protocol="AJP/1.3"
  address="::1"
  port="8009"
  redirectPort="8443" />
-->

<!-- An Engine represents the entry point (within Catalina) that processes
every request. The Engine implementation for Tomcat stand alone
analyzes the HTTP headers included with the request, and passes them
on to the appropriate Host (virtual host).
Documentation at /docs/config/engine.html -->

<!-- You should set jvmRoute to support load-balancing via AJP ie :
<Engine name="Catalina" defaultHost="localhost" jvmRoute="jvm1">
```

Y entramos por ssl:



TOMCATLINUX (Instantánea 1) [Corriendo] - Oracle VM VirtualBox

Archivo Máquina Ver Entrada Dispositivos Ayuda

Apache Tomcat/11.0.1 - Mozilla Firefox


Apache Tomcat/11.0.1 Firefox Privacy Notice — Mozilla

https://localhost:8443

Home Documentation Configuration Examples Wiki Mailing Lists Find Help

Apache Tomcat/11.0.1

If you're seeing this, you've successfully installed Tomcat. Congratulations!



Recommended Reading:

- [Security Considerations How-To](#)
- [Manager Application How-To](#)
- [Clustering/Session Replication How-To](#)

[Server Status](#)

[Manager App](#)

[Host Manager](#)

Developer Quick Start

- [Tomcat Setup](#)
- [First Web Application](#)
- [Realms & AAA](#)
- [JDBC DataSources](#)
- [Examples](#)
- [Servlet Specifications](#)
- [Tomcat Versions](#)

Managing Tomcat

For security, access to the [manager webapp](#) is restricted. Users are defined in:

```
$CATALINA_HOME/conf/tomcat-users.xml
```

In Tomcat 11.0 access to the manager application is split between different users.
[Read more...](#)

[Release Notes](#)

[Changelog](#)

[Migration Guide](#)

[Security Notices](#)

Documentation

[Tomcat 11.0 Documentation](#)

[Tomcat 11.0 Configuration](#)

[Tomcat Wiki](#)

Find additional important configuration information in:

```
$CATALINA_HOME/RUNNING.txt
```

Developers may be interested in:

- [Tomcat 11.0 Bug Database](#)
- [Tomcat 11.0 JavaDocs](#)
- [Tomcat 11.0 Git Repository at GitHub](#)

Getting Help

[FAQ and Mailing Lists](#)

The following mailing lists are available:

- [tomcat-announce](#)
Important announcements, releases, security vulnerability notifications. (Low volume).
- [tomcat-users](#)
User support and discussion
- [taglibs-user](#)
User support and discussion for [Apache Taglibs](#)
- [tomcat-dev](#)
Development mailing list, including commit messages

Other Downloads Other Documentation Get Involved Miscellaneous Apache Software Foundation

[Tomcat Connectors](#) [Tomcat Connectors](#) [Overview](#) [Contact](#) [Who We Are](#)

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Certificado:

The screenshot shows a web browser window titled 'Certificado para Hugo - Mozilla Firefox'. The address bar displays the URL 'about:certificate?cert=MIIDhzCCAm%2BgAwIBAgIIEsRjbPSBjZkwDQYJKoZIhvcNAQELBQAw'. The main content area is titled 'Certificado' and displays the following information:

Hugo	
Nome do asunto	
País	ES
Estado/Provincia	Pontevedra
Localidade	Redondela
Organización	TomcatTrabajo
Unidade organizativa	HugoTomcat
Nome común	Hugo
Nome do emisor	
País	ES
Estado/Provincia	Pontevedra
Localidade	Redondela
Organización	TomcatTrabajo
Unidade organizativa	HugoTomcat
Nome común	Hugo
Validez	
Non antes de	Thu, 14 Nov 2024 21:15:51 GMT
Non posterior a	Fri, 14 Nov 2025 21:15:51 GMT

Pistas:

A Step-By-Step Guide to Apache Tomcat with SSL Configuration | by Kayathiri Mahendrakumaran | Analytics Vidhya | Medium

Instalación del certificado SSL en el servidor Apache Tomcat (sslmarket.es)

Apache Tomcat 9 (9.0.85) - SSL/TLS Configuration How-To

Nombre y apellidos:

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4. Integración con un IDE

Realiza la integración de Tomcat con un IDE de tu elección (IntelliJ IDEA, Eclipse, Netbeans, Visual Studio Code,...)

Pistas:

[How to Deploy a WAR File to Tomcat | Baeldung](#)

[Visual Studio Code Tomcat y su configuración - Arquitectura Java](#)

[Instalación de Tomcat y configuración con Visual Studio Code - YouTube](#)

[\(Microsoft Word - Cap\355tulo 6. Eclipse con el plug-in de TOMCAT.doc\) \(us.es\)](#)

[Cómo configurar Eclipse y Apache Tomcat para desarrollar aplicaciones Java Web - YouTube](#)

[AGREGAR EL SERVIDOR TOMCAT 9 A NETBEANS – VIDELCLOUD \(wordpress.com\)](#)

[Instalar y configurar Apache Tomcat 9 en NetBeans - YouTube](#)

SERVIDOR DE APLICACIONES – APACHE TOMCAT

Instalamos esta extensión:

Community Server Connectors v0.26.19 Preview

Red Hat redhat.com | 417,074 | ★★★★★(8)

Connects vscode with open source community-driven servers and runtimes.

Disable Uninstall Auto Update

DETAILS FEATURES DEPENDENCIES

Runtime Server Protocol - Community Extension

VS MARKETPLACE V0.26.19 DOWNLOADS 1.3M

CHAT ON GITTER BUILD FAILING LICENSE EPLV2.0

Summary

This VSCode Extension provides a Runtime Server Protocol based server connector, which can start, stop, publish to, and otherwise control Community runtimes and servers like Apache Felix, Karaf, and Tomcat.

Commands and features

Categories: Other

Resources: Marketplace, Issues, Repository, License, Red Hat

More Info: Published: 2020-02-25, 22:24:55; Last: 2024-10-09, 16:22:50

Server: Tomcat 8.5

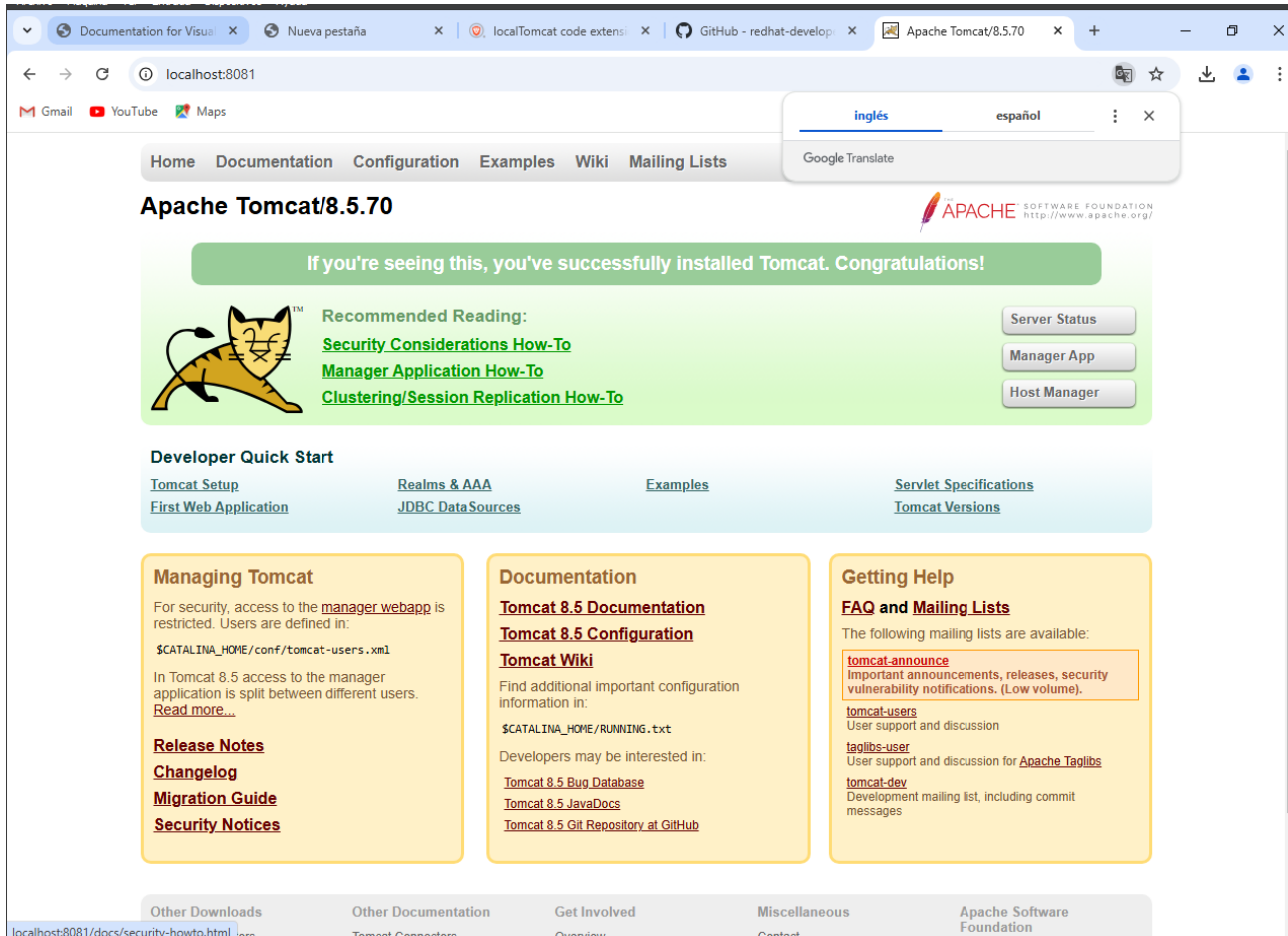
```
18-Nov-2024 19:10:12.389 INFO [localhost-startStop-1] org.apache.catalina.startup.HostConfig.deployDirectory Desplegando el directorio [C:\xampp\tomcat\webapps\manager] de la aplicación web
18-Nov-2024 19:10:12.463 INFO [localhost-startStop-1] org.apache.catalina.startup.HostConfig.deployDirectory Deployment of web application directory [C:\xampp\tomcat\webapps\manager] has finished in [74] ms
18-Nov-2024 19:10:12.464 INFO [localhost-startStop-1] org.apache.catalina.startup.HostConfig.deployDirectory Desplegando el directorio [C:\xampp\tomcat\webapps\ROOT] de la aplicación web
18-Nov-2024 19:10:12.508 INFO [localhost-startStop-1] org.apache.catalina.startup.HostConfig.deployDirectory Deployment of web application directory [C:\xampp\tomcat\webapps\ROOT] has finished in [45] ms
18-Nov-2024 19:10:12.514 INFO [main] org.apache.coyote.AbstractP
18-Nov-2024 19:10:12.531 INFO [main] org.apache.catalina.startup
18-Nov-2024 19:10:16.985 WARNING [main] org.apache.catalina.core.StandardServer.await Invalid shutdown command [GET /
```

A continuación vamos a el palette search de vscode y buscaremos Servers: Add Local Server, y nos aparecerá la opción, al darle nos mandará seleccionar la ruta. En este caso al hacerlo con xampp seleccionamos la ruta de C:\xampp\tomcat



SERVIDOR DE APLICACIONES – APACHE TOMCAT

Después de eso abajo a la izquierda del vscode nos aparecerá un iconito pequeño de tomcat, haremos right-click y nos aparecerá start server, le damos y ya iniciaríamos nuestro servidor. En este caso me toco cambiar unos puertos del tomcat para que me funcionase.



5. Cuestiones

a) ¿Qué versión de Apache Tomcat instalarás dependiendo de tu versión de Java?

a.1) Y para la versión

- **Java 8:** Tomcat 8.x o 9.x.

a.2) Y para la versión 21?

- **Java 21:** Tomcat 10.x o 11.x.

b) ¿Qué otros servidores de aplicaciones hay en el mercado? ¿Cuáles son software libre y cuales productos comerciales?

Software libre: Tomcat, Jetty, WildFly, GlassFish, Payara.

Comerciales: WebLogic (Oracle), WebSphere (IBM), Resin (comercial y libre).

c) Una de las cuestiones a tener en cuenta es el rendimiento de las aplicaciones. ¿Sabrías indicar alguna herramienta para pruebas de carga?

JMeter: Es top para pruebas de carga, estrés y rendimiento. ¡Y es libre!

d) Otra de las cuestiones a tener en cuenta es la monitorización del servidor de aplicaciones. ¿Sabrías indicarme alguna herramienta para monitorizar tomcat u otro servidor de aplicaciones? ¿Qué indicadores puede interesar monitorizar?

Prometheus + Grafana: Perfecto para ver métricas en tiempo real.

Otros: New Relic y Datadog (comerciales).

Pistas:

Apache Tomcat monitoring and integration with Zabbix

Apache Tomcat Monitoring Guide & 5 Best Tools for 2024 (comparitech.com)

Apache Tomcat - Nagios Exchange

JMeter vs Other Performance Testing Tools | automateNow

List of application servers - Wikipedia

List of application servers - Wikipedia (aimultiple.com)

WebLogic Server | Oracle España

WebSphere Application Server | IBM

Nombre y apellidos:

WildFly