

Manual de instalación

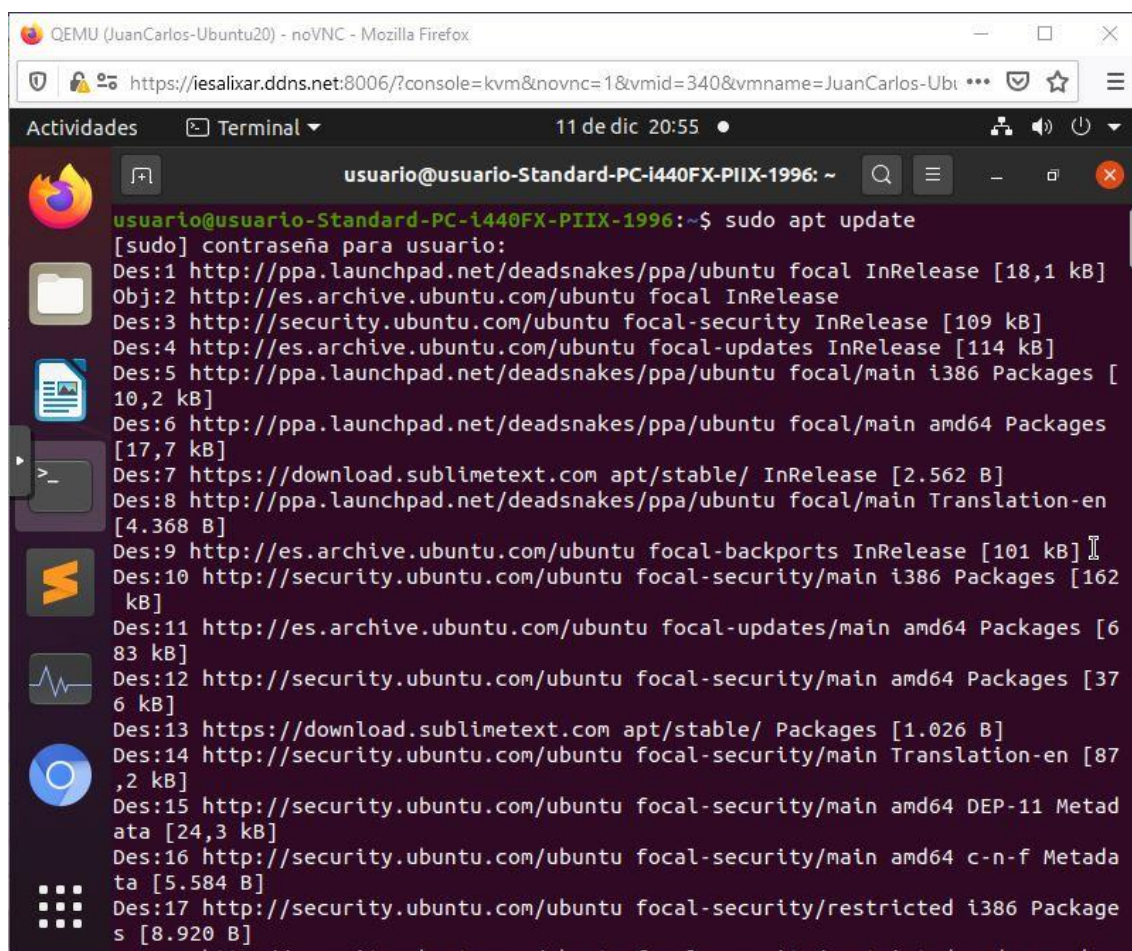
Requerimientos previos a la instalación

- Conexión a internet
- Un Servidor, en nuestro caso usaremos el facilitado por el centro (PROXMOX)
- Una máquina virtual desplegada en el servidor

Instalación

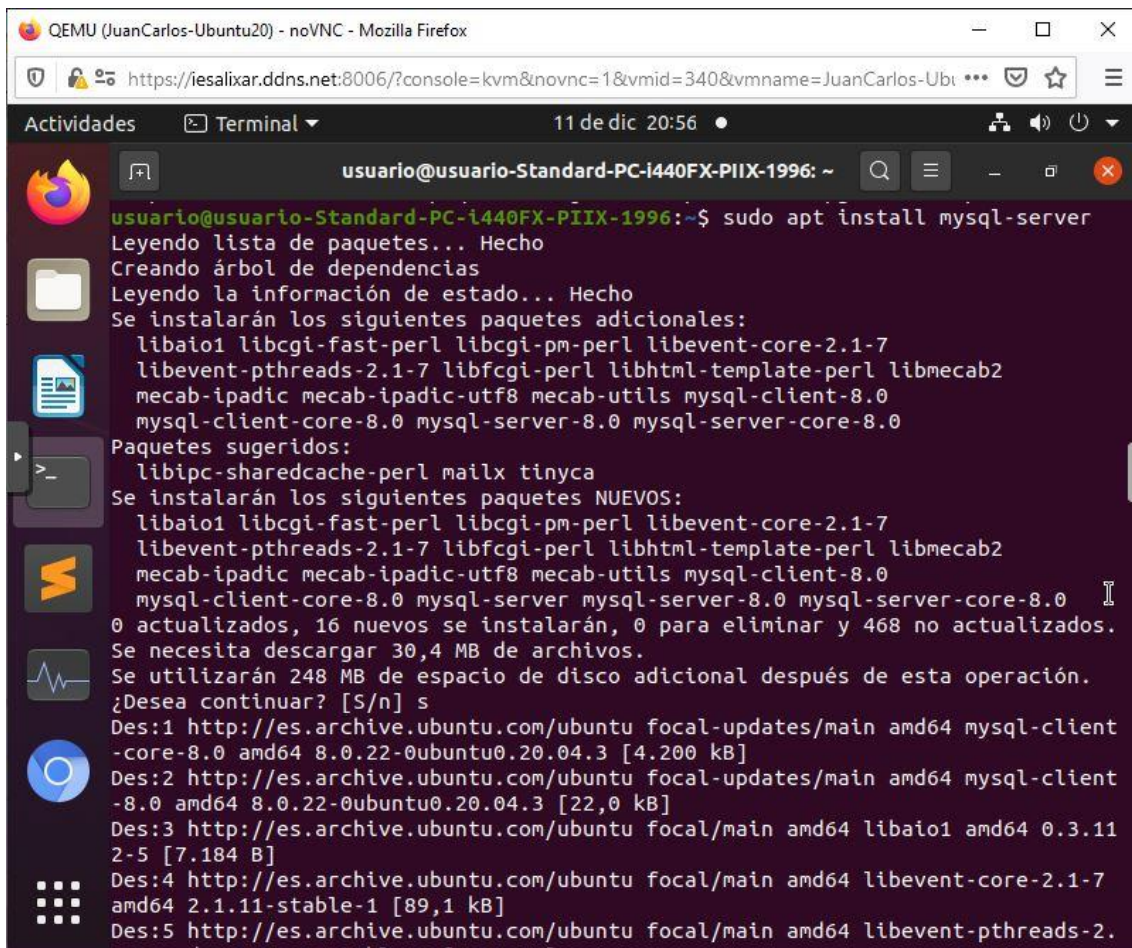
Para la persistencia de datos vamos a utilizar MySQL por lo que necesitaremos instalarlo en nuestra máquina virtual con los siguientes comandos:

Sudo apt update



```
QEMU (JuanCarlos-Ubuntu20) - noVNC - Mozilla Firefox
https://iesalixar.ddns.net:8006/?console=kvm&novnc=1&vmid=340&vmname=JuanCarlos-Ubuntu20
Actividades Terminal 11 de dic 20:55
usuario@usuario-Standard-PC-i440FX-PIIX-1996: ~
usuario@usuario-Standard-PC-i440FX-PIIX-1996:~$ sudo apt update
[sudo] contraseña para usuario:
Des:1 http://ppa.launchpad.net/deadsnakes/ppa/ubuntu focal InRelease [18,1 kB]
Obj:2 http://es.archive.ubuntu.com/ubuntu focal InRelease
Des:3 http://security.ubuntu.com/ubuntu focal-security InRelease [109 kB]
Des:4 http://es.archive.ubuntu.com/ubuntu focal-updates InRelease [114 kB]
Des:5 http://ppa.launchpad.net/deadsnakes/ppa/ubuntu focal/main i386 Packages [10,2 kB]
Des:6 http://ppa.launchpad.net/deadsnakes/ppa/ubuntu focal/main amd64 Packages [17,7 kB]
Des:7 https://download.sublimetext.com apt/stable/ InRelease [2.562 B]
Des:8 http://ppa.launchpad.net/deadsnakes/ppa/ubuntu focal/main Translation-en [4.368 B]
Des:9 http://es.archive.ubuntu.com/ubuntu focal-backports InRelease [101 kB]
Des:10 http://security.ubuntu.com/ubuntu focal-security/main i386 Packages [162 kB]
Des:11 http://es.archive.ubuntu.com/ubuntu focal-updates/main amd64 Packages [683 kB]
Des:12 http://security.ubuntu.com/ubuntu focal-security/main amd64 Packages [376 kB]
Des:13 https://download.sublimetext.com apt/stable/ Packages [1.026 B]
Des:14 http://security.ubuntu.com/ubuntu focal-security/main Translation-en [87,2 kB]
Des:15 http://security.ubuntu.com/ubuntu focal-security/main amd64 DEP-11 Metad ata [24,3 kB]
Des:16 http://security.ubuntu.com/ubuntu focal-security/main amd64 c-n-f Metada ta [5.584 B]
Des:17 http://security.ubuntu.com/ubuntu focal-security/restricted i386 Package s [8.920 B]
Des:18 http://security.ubuntu.com/ubuntu focal-security/restricted amd64 Package s [8.920 B]
```

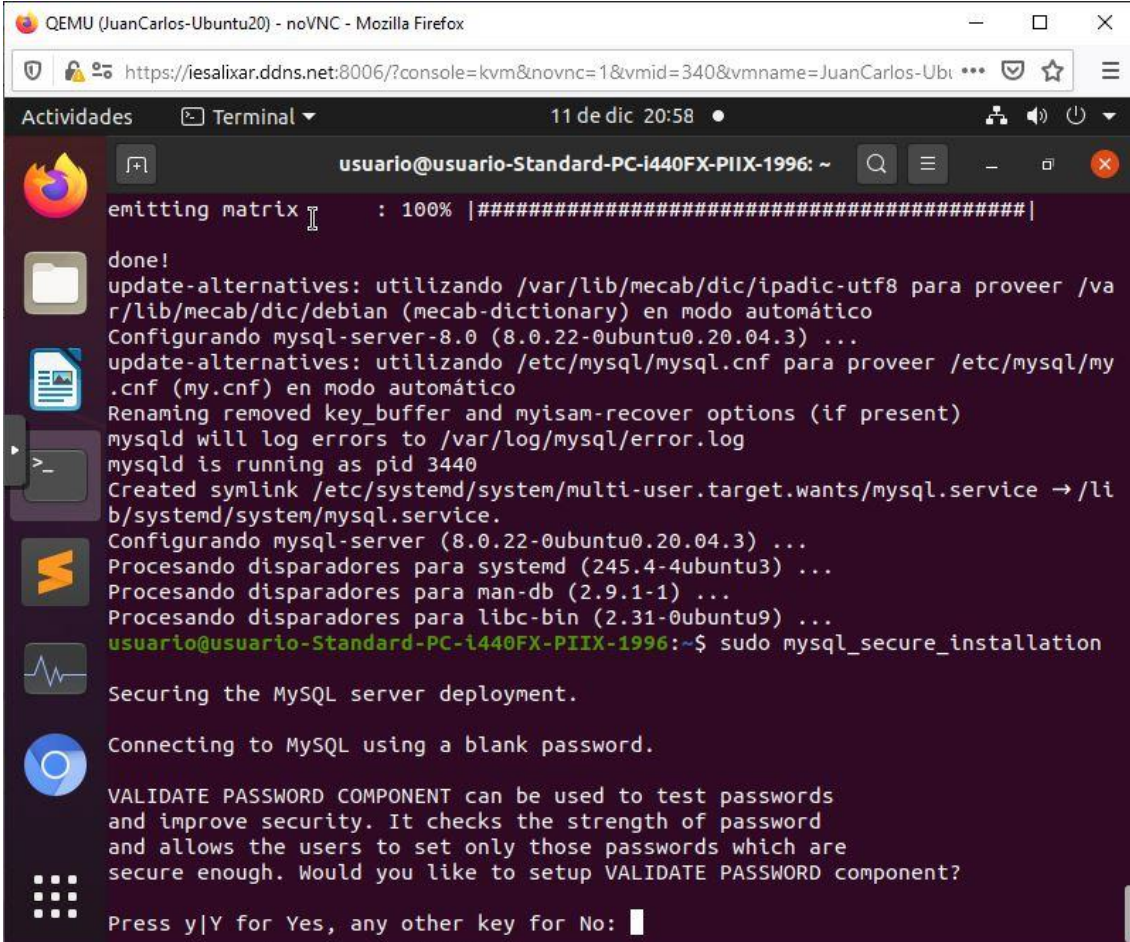
Sudo apt install mysql-server



The screenshot shows a terminal window titled "QEMU (JuanCarlos-Ubuntu20) - noVNC - Mozilla Firefox". The address bar shows a URL: <https://fesalixar.ddns.net:8006/?console=kvm&novnc=1&vmid=340&vmname=JuanCarlos-Ubu...>. The terminal window has a dark background and shows the following output:

```
usuario@usuario-Standard-PC-i440FX-PIIX-1996: ~$ sudo apt install mysql-server
Leyendo lista de paquetes... Hecho
Creando árbol de dependencias
Leyendo la información de estado... Hecho
Se instalarán los siguientes paquetes adicionales:
  libaio1 libcgi-fast-perl libcgi-pm-perl libevent-core-2.1-7
  libevent-pthreads-2.1-7 libfcgi-perl libhtml-template-perl libmecab2
  mecab-ipadic mecab-ipadic-utf8 mecab-utils mysql-client-8.0
  mysql-client-core-8.0 mysql-server-8.0 mysql-server-core-8.0
Paquetes sugeridos:
  libipc-sharedcache-perl mailx tinycb
Se instalarán los siguientes paquetes NUEVOS:
  libaio1 libcgi-fast-perl libcgi-pm-perl libevent-core-2.1-7
  libevent-pthreads-2.1-7 libfcgi-perl libhtml-template-perl libmecab2
  mecab-ipadic mecab-ipadic-utf8 mecab-utils mysql-client-8.0
  mysql-client-core-8.0 mysql-server mysql-server-8.0 mysql-server-core-8.0
0 actualizados, 16 nuevos se instalarán, 0 para eliminar y 468 no actualizados.
Se necesita descargar 30,4 MB de archivos.
Se utilizarán 248 MB de espacio de disco adicional después de esta operación.
¿Desea continuar? [S/n] s
Des:1 http://es.archive.ubuntu.com/ubuntu focal-updates/main amd64 mysql-client
-core-8.0 amd64 8.0.22-0ubuntu0.20.04.3 [4,200 kB]
Des:2 http://es.archive.ubuntu.com/ubuntu focal-updates/main amd64 mysql-client
-8.0 amd64 8.0.22-0ubuntu0.20.04.3 [22,0 kB]
Des:3 http://es.archive.ubuntu.com/ubuntu focal/main amd64 libaio1 amd64 0.3.11
2-5 [7,184 B]
Des:4 http://es.archive.ubuntu.com/ubuntu focal/main amd64 libevent-core-2.1-7
amd64 2.1.11-stable-1 [89,1 kB]
Des:5 http://es.archive.ubuntu.com/ubuntu focal/main amd64 libevent-pthreads-2.1-7
amd64 2.1.11-stable-1 [57,370 B]
```


Contestamos a las preguntas que nos realiza el software



```
QEMU (JuanCarlos-Ubuntu20) - noVNC - Mozilla Firefox
https://iesalixar.ddns.net:8006/?console=kvm&novnc=1&vmid=340&vmname=JuanCarlos-Ubuntu20
Actividades Terminal 11 de dic 20:58
usuario@usuario-Standard-PC-i440FX-PIIX-1996: ~
emitting matrix : 100% [#####]
done!
update-alternatives: utilizando /var/lib/mecab/dic/ipadic-utf8 para proveer /var/lib/mecab/dic/debian (mecab-dictionary) en modo automático
Configurando mysql-server-8.0 (8.0.22-0ubuntu0.20.04.3) ...
update-alternatives: utilizando /etc/mysql/mysql.cnf para proveer /etc/mysql/my.cnf (my.cnf) en modo automático
Renaming removed key_buffer and myisam-recover options (if present)
mysqld will log errors to /var/log/mysql/error.log
mysqld is running as pid 3440
Created symlink /etc/systemd/system/multi-user.target.wants/mysql.service → /lib/systemd/system/mysql.service.
Configurando mysql-server (8.0.22-0ubuntu0.20.04.3) ...
Procesando disparadores para systemd (245.4-4ubuntu3) ...
Procesando disparadores para man-db (2.9.1-1) ...
Procesando disparadores para libc-bin (2.31-0ubuntu9) ...
usuario@usuario-Standard-PC-i440FX-PIIX-1996:~$ sudo mysql_secure_installation

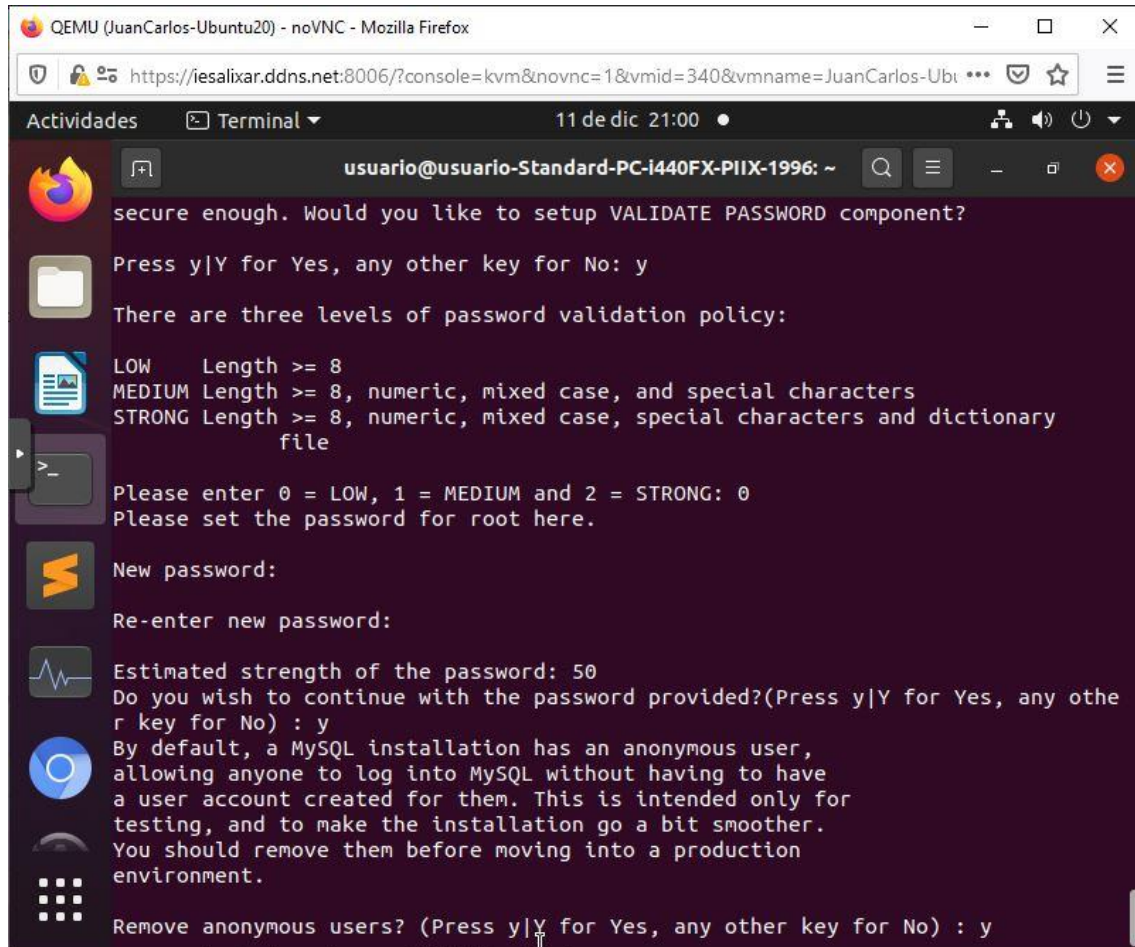
Securing the MySQL server deployment.

Connecting to MySQL using a blank password.

VALIDATE PASSWORD COMPONENT can be used to test passwords
and improve security. It checks the strength of password
and allows the users to set only those passwords which are
secure enough. Would you like to setup VALIDATE PASSWORD component?

Press y|Y for Yes, any other key for No: 
```

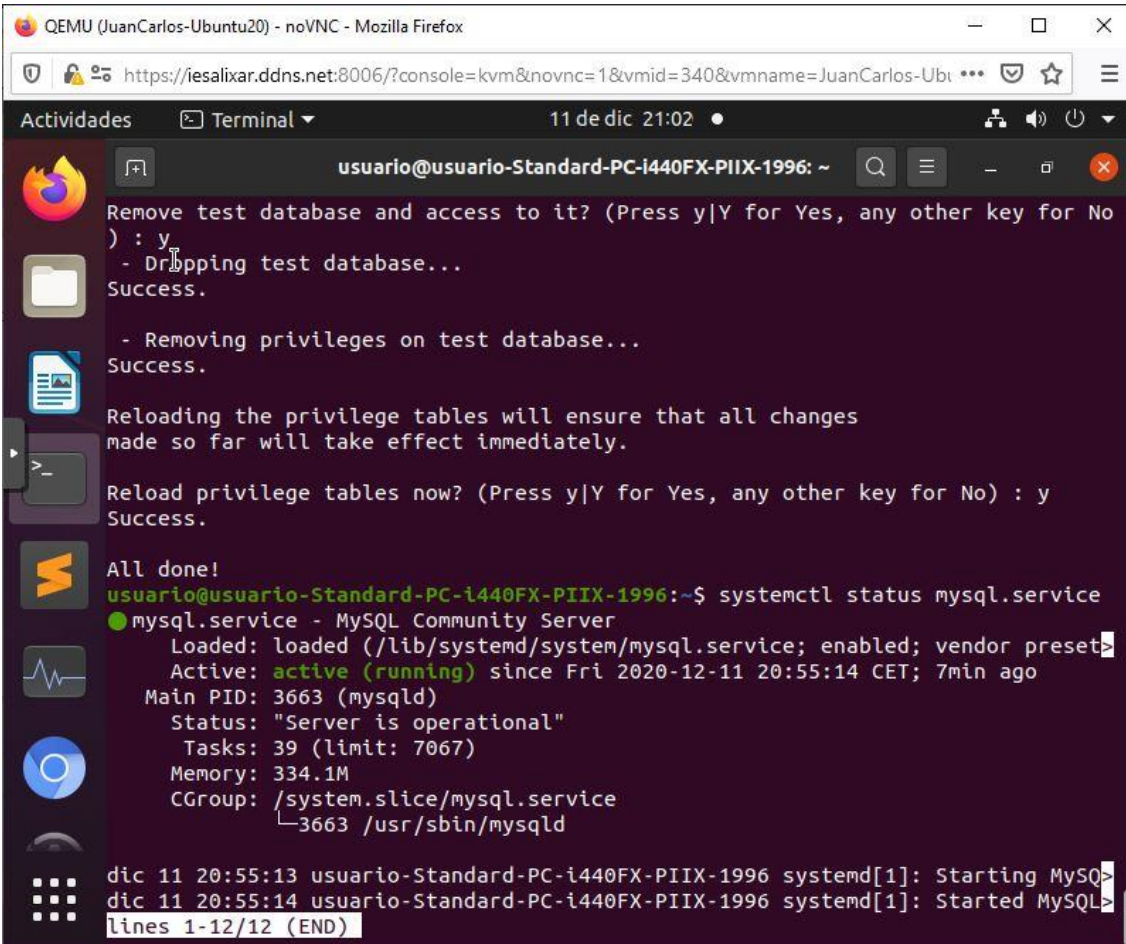
Ingresamos la fortaleza de la contraseña y la propia contraseña en sí que tendrá nuestra base de datos.



The screenshot shows a terminal window titled "QEMU (JuanCarlos-Ubuntu20) - noVNC - Mozilla Firefox". The address bar displays the URL: <https://iesalixar.ddns.net:8006/?console=kvm&novnc=1&vmid=340&vmname=JuanCarlos-Ubu...>. The terminal interface shows the following text:

```
usuario@usuario-Standard-PC-i440FX-PIIX-1996: ~  
secure enough. Would you like to setup VALIDATE PASSWORD component?  
Press y|Y for Yes, any other key for No: y  
There are three levels of password validation policy:  
LOW      Length >= 8  
MEDIUM  Length >= 8, numeric, mixed case, and special characters  
STRONG  Length >= 8, numeric, mixed case, special characters and dictionary  
         file  
Please enter 0 = LOW, 1 = MEDIUM and 2 = STRONG: 0  
Please set the password for root here.  
New password:  
Re-enter new password:  
Estimated strength of the password: 50  
Do you wish to continue with the password provided?(Press y|Y for Yes, any other  
key for No) : y  
By default, a MySQL installation has an anonymous user,  
allowing anyone to log into MySQL without having to have  
a user account created for them. This is intended only for  
testing, and to make the installation go a bit smoother.  
You should remove them before moving into a production  
environment.  
Remove anonymous users? (Press y|Y for Yes, any other key for No) : y
```

Una vez finalizado la instalacion introduciremos el comando “`sudo systemctl status mysql.service`” para comprobar que todo va correctamente.



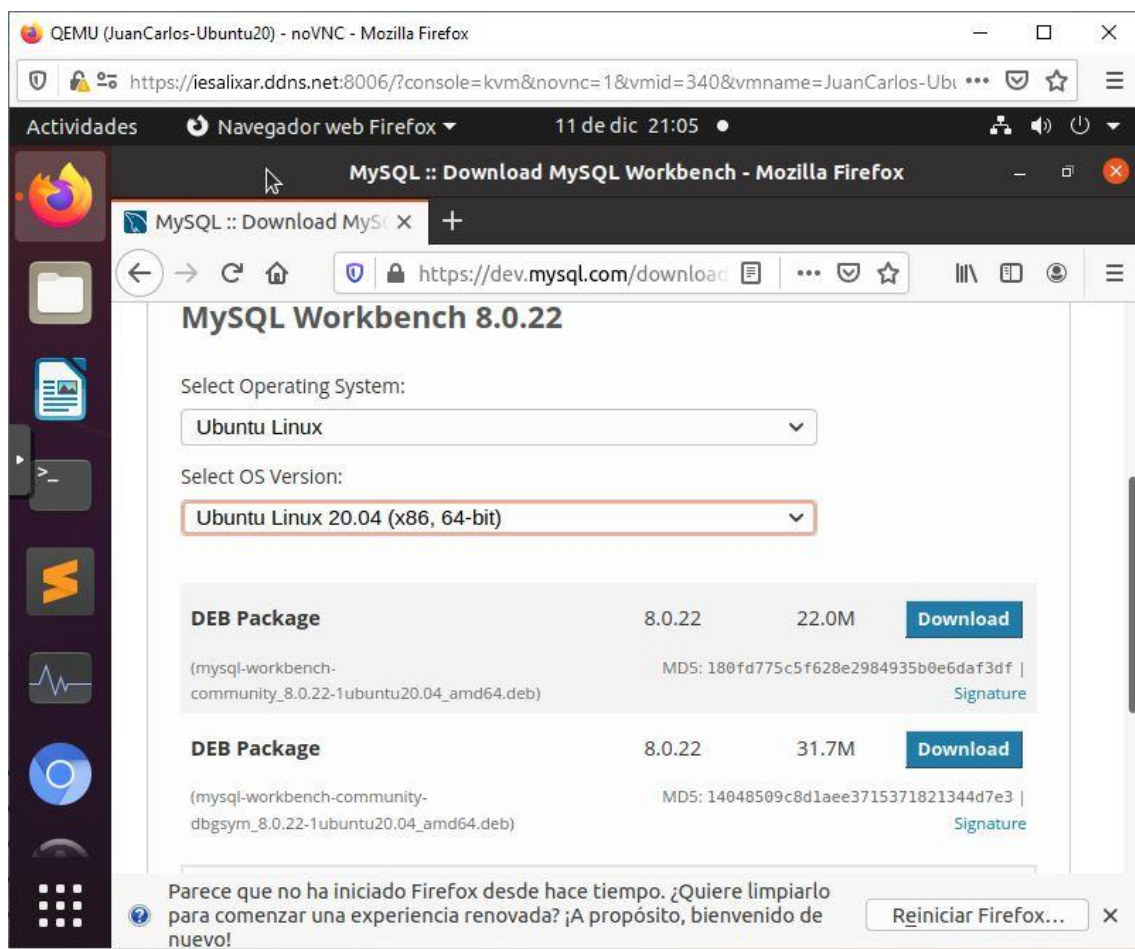
The screenshot shows a terminal window within a QEMU virtual machine named 'JuanCarlos-Ubuntu20'. The terminal output shows the following sequence of events:

- A prompt asking to remove the test database and access to it, with 'y' entered for Yes.
- Messages: 'Dropping test database...' and 'Success.'.
- A message: 'Removing privileges on test database...' and 'Success.'.
- A message: 'Reloading the privilege tables will ensure that all changes made so far will take effect immediately.'
- A prompt asking to reload privilege tables now, with 'y' entered for Yes.
- A message: 'Success.'
- A message: 'All done!'.
- The command `systemctl status mysql.service` is executed.
- The output of the command is displayed, showing that the MySQL service is loaded, enabled, and active (running).
- Log messages at the bottom show the system starting and starting MySQL.

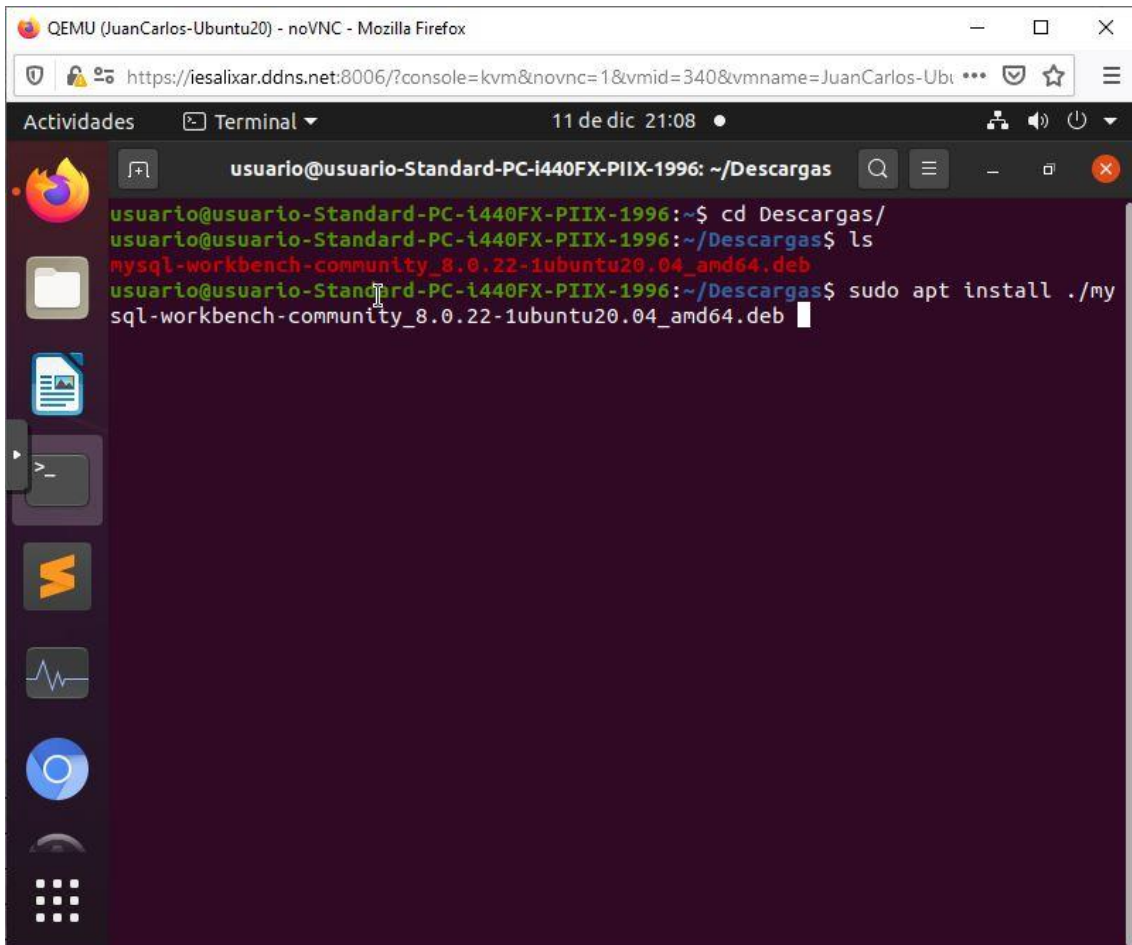
```
Remove test database and access to it? (Press y|Y for Yes, any other key for No) : y
- Dropping test database...
Success.
- Removing privileges on test database...
Success.
Reloading the privilege tables will ensure that all changes
made so far will take effect immediately.
Reload privilege tables now? (Press y|Y for Yes, any other key for No) : y
Success.
All done!
usuario@usuario-Standard-PC-i440FX-PIIX-1996:~$ systemctl status mysql.service
● mysql.service - MySQL Community Server
   Loaded: loaded (/lib/systemd/system/mysql.service; enabled; vendor preset: ena
   Active: active (running) since Fri 2020-12-11 20:55:14 CET; 7min ago
     Main PID: 3663 (mysqld)
       Status: "Server is operational"
        Tasks: 39 (limit: 7067)
       Memory: 334.1M
      CGroup: /system.slice/mysql.service
              └─3663 /usr/sbin/mysqld

dic 11 20:55:13 usuario-Standard-PC-i440FX-PIIX-1996 systemd[1]: Starting MySQL>
dic 11 20:55:14 usuario-Standard-PC-i440FX-PIIX-1996 systemd[1]: Started MySQL>
lines 1-12/12 (END)
```

Para mayor facilidad a la hora de trabajar con la base de datos instalaremos desde su web correspondiente MsSQL WORKBENCH



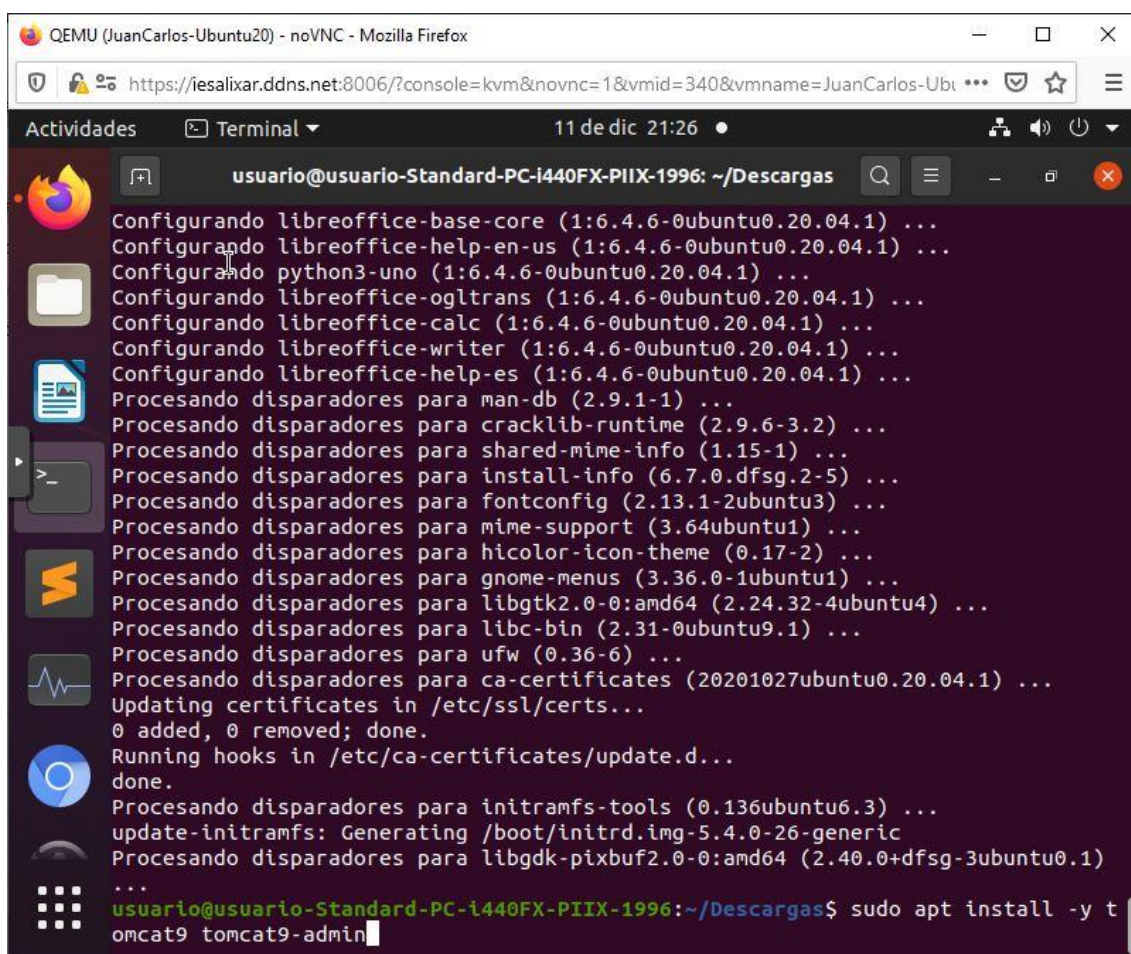
Descomprimos e instalamos el paquete que hemos descargado de MySQL



The screenshot shows a terminal window titled 'usuario@usuario-Standard-PC-i440FX-PIIX-1996: ~/Descargas'. The user has navigated to the 'Descargas' directory and listed the files, showing 'mysql-workbench-community_8.0.22-1ubuntu20.04_amd64.deb'. The user then enters the command 'sudo apt install ./mysql-workbench-community_8.0.22-1ubuntu20.04_amd64.deb' to install the package. The terminal output shows the command being executed.

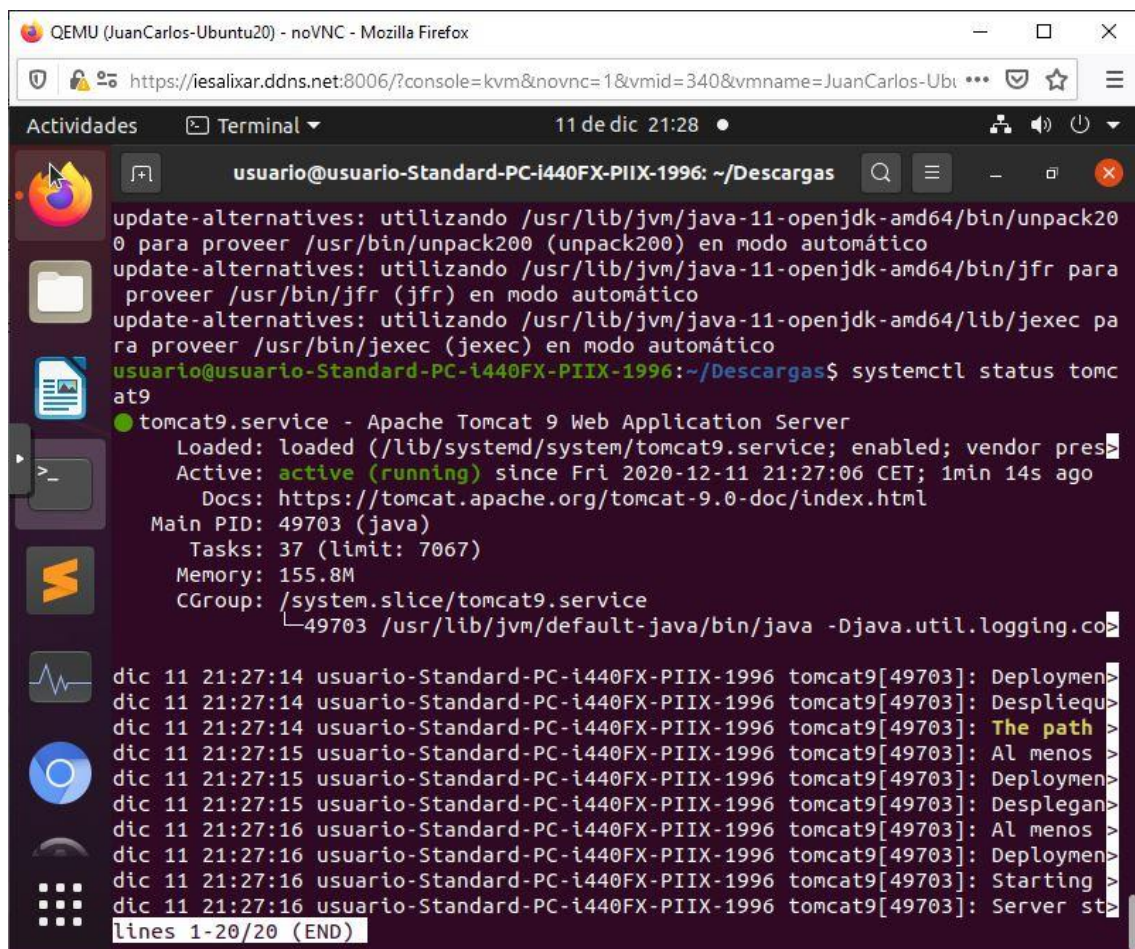
```
usuario@usuario-Standard-PC-i440FX-PIIX-1996:~$ cd Descargas/  
usuario@usuario-Standard-PC-i440FX-PIIX-1996:~/Descargas$ ls  
mysql-workbench-community_8.0.22-1ubuntu20.04_amd64.deb  
usuario@usuario-Standard-PC-i440FX-PIIX-1996:~/Descargas$ sudo apt install ./mysql-workbench-community_8.0.22-1ubuntu20.04_amd64.deb
```


Una vez terminada la instalacion de nuestra presistencia de datos procederemos a instalar nuestro servidor web, en este caso TOMCAT9 mediante el comando “sudo apt install -y tomcat9 tomcat9-admin”



```
QEMU (JuanCarlos-Ubuntu20) - noVNC - Mozilla Firefox
https://iesalixar.ddns.net:8006/?console=kvm&novnc=1&vmid=340&vmname=JuanCarlos-Ubuntu20
Actividades Terminal 11 de dic 21:26
usuario@usuario-Standard-PC-i440FX-PIIX-1996: ~/Descargas
Configurando libreoffice-base-core (1:6.4.6-0ubuntu0.20.04.1) ...
Configurando libreoffice-help-en-us (1:6.4.6-0ubuntu0.20.04.1) ...
Configurando python3-uno (1:6.4.6-0ubuntu0.20.04.1) ...
Configurando libreoffice-ogltrans (1:6.4.6-0ubuntu0.20.04.1) ...
Configurando libreoffice-calc (1:6.4.6-0ubuntu0.20.04.1) ...
Configurando libreoffice-writer (1:6.4.6-0ubuntu0.20.04.1) ...
Configurando libreoffice-help-es (1:6.4.6-0ubuntu0.20.04.1) ...
Procesando disparadores para man-db (2.9.1-1) ...
Procesando disparadores para cracklib-runtime (2.9.6-3.2) ...
Procesando disparadores para shared-mime-info (1.15-1) ...
Procesando disparadores para install-info (6.7.0.dfsg.2-5) ...
Procesando disparadores para fontconfig (2.13.1-2ubuntu3) ...
Procesando disparadores para mime-support (3.64ubuntu1) ...
Procesando disparadores para hicolor-icon-theme (0.17-2) ...
Procesando disparadores para gnome-menus (3.36.0-1ubuntu1) ...
Procesando disparadores para libgtk2.0-0:amd64 (2.24.32-4ubuntu4) ...
Procesando disparadores para libc-bin (2.31-0ubuntu9.1) ...
Procesando disparadores para ufw (0.36-6) ...
Procesando disparadores para ca-certificates (20201027ubuntu0.20.04.1) ...
Updating certificates in /etc/ssl/certs...
0 added, 0 removed; done.
Running hooks in /etc/ca-certificates/update.d...
done.
Procesando disparadores para initramfs-tools (0.136ubuntu6.3) ...
update-initramfs: Generating /boot/initrd.img-5.4.0-26-generic
Procesando disparadores para libgdk-pixbuf2.0-0:amd64 (2.40.0+dfsg-3ubuntu0.1)
...
usuario@usuario-Standard-PC-i440FX-PIIX-1996:~/Descargas$ sudo apt install -y tomcat9 tomcat9-admin
```

Comprobamos que todo se ha realizado correctamente ejecutando el estatus del servicio

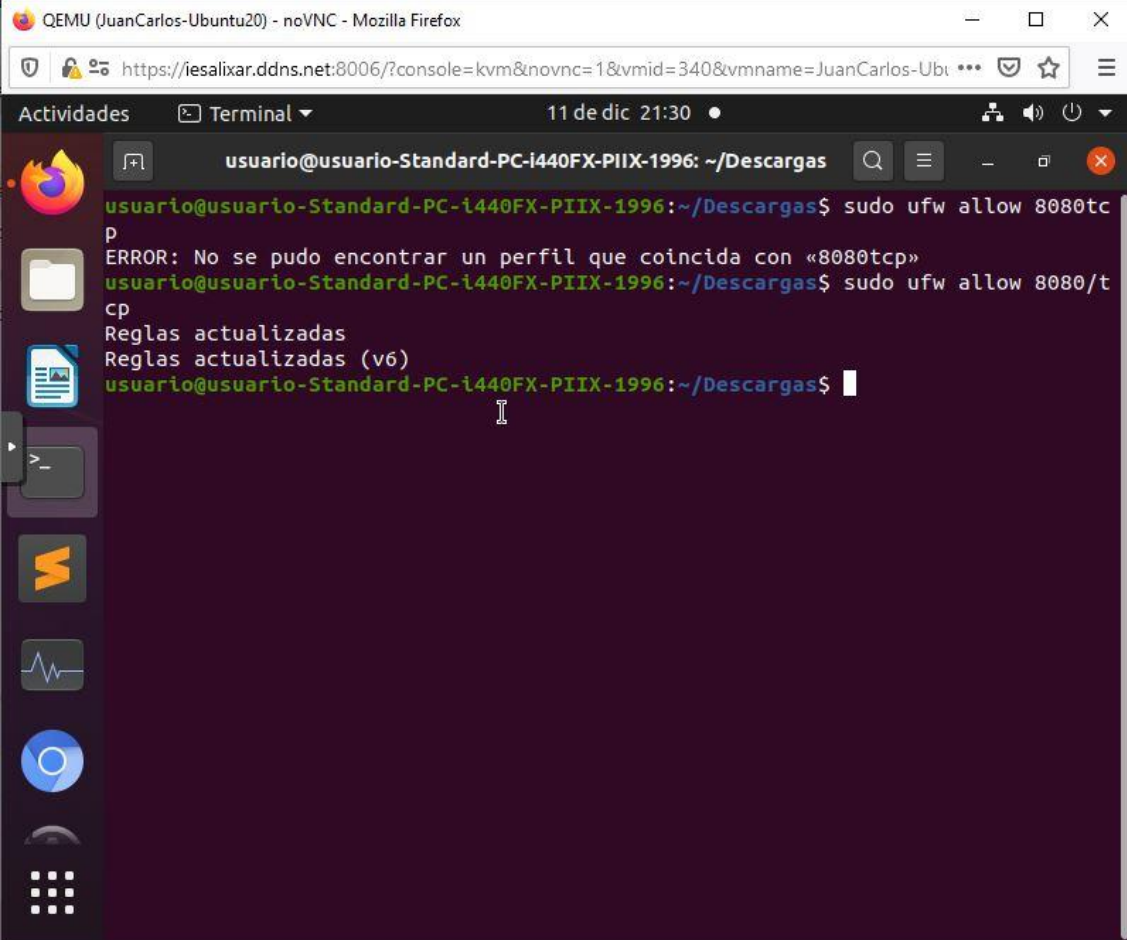


The screenshot shows a terminal window titled 'usuario@usuario-Standard-PC-i440FX-PIIX-1996: ~/Descargas'. The terminal output shows the command 'systemctl status tomcat9' being executed. The output indicates that the 'tomcat9.service' is loaded, active, and running. It also shows the main PID, tasks, memory usage, and CGroup. Below this, a log of messages from the tomcat9 service is displayed, showing deployment and starting processes.

```
update-alternatives: utilizando /usr/lib/jvm/java-11-openjdk-amd64/bin/unpack200 para proveer /usr/bin/unpack200 (unpack200) en modo automático
update-alternatives: utilizando /usr/lib/jvm/java-11-openjdk-amd64/bin/jfr para proveer /usr/bin/jfr (jfr) en modo automático
update-alternatives: utilizando /usr/lib/jvm/java-11-openjdk-amd64/lib/jexec para proveer /usr/bin/jexec (jexec) en modo automático
usuario@usuario-Standard-PC-i440FX-PIIX-1996:~/Descargas$ systemctl status tomcat9
● tomcat9.service - Apache Tomcat 9 Web Application Server
   Loaded: loaded (/lib/systemd/system/tomcat9.service; enabled; vendor preset: enabled)
   Active: active (running) since Fri 2020-12-11 21:27:06 CET; 1min 14s ago
     Docs: https://tomcat.apache.org/tomcat-9.0-doc/index.html
   Main PID: 49703 (java)
     Tasks: 37 (limit: 7067)
    Memory: 155.8M
   CGroup: /system.slice/tomcat9.service
           └─49703 /usr/lib/jvm/default-java/bin/java -Djava.util.logging.config.file=/usr/lib/jvm/default-java/conf/logging.properties -jar /usr/lib/jvm/default-java/lib/tomcat9.jar

dic 11 21:27:14 usuario-Standard-PC-i440FX-PIIX-1996 tomcat9[49703]: Deployment complete
dic 11 21:27:14 usuario-Standard-PC-i440FX-PIIX-1996 tomcat9[49703]: Desplegando nuevo archivo de configuración
dic 11 21:27:14 usuario-Standard-PC-i440FX-PIIX-1996 tomcat9[49703]: The path /usr/lib/jvm/default-java/lib/tomcat9.jar is not a file
dic 11 21:27:15 usuario-Standard-PC-i440FX-PIIX-1996 tomcat9[49703]: Al menos un archivo de configuración debe estar presente en el directorio de configuración
dic 11 21:27:15 usuario-Standard-PC-i440FX-PIIX-1996 tomcat9[49703]: Desplegando nuevo archivo de configuración
dic 11 21:27:16 usuario-Standard-PC-i440FX-PIIX-1996 tomcat9[49703]: Al menos un archivo de configuración debe estar presente en el directorio de configuración
dic 11 21:27:16 usuario-Standard-PC-i440FX-PIIX-1996 tomcat9[49703]: Desplegando nuevo archivo de configuración
dic 11 21:27:16 usuario-Standard-PC-i440FX-PIIX-1996 tomcat9[49703]: Starting Tomcat
dic 11 21:27:16 usuario-Standard-PC-i440FX-PIIX-1996 tomcat9[49703]: Server started
```

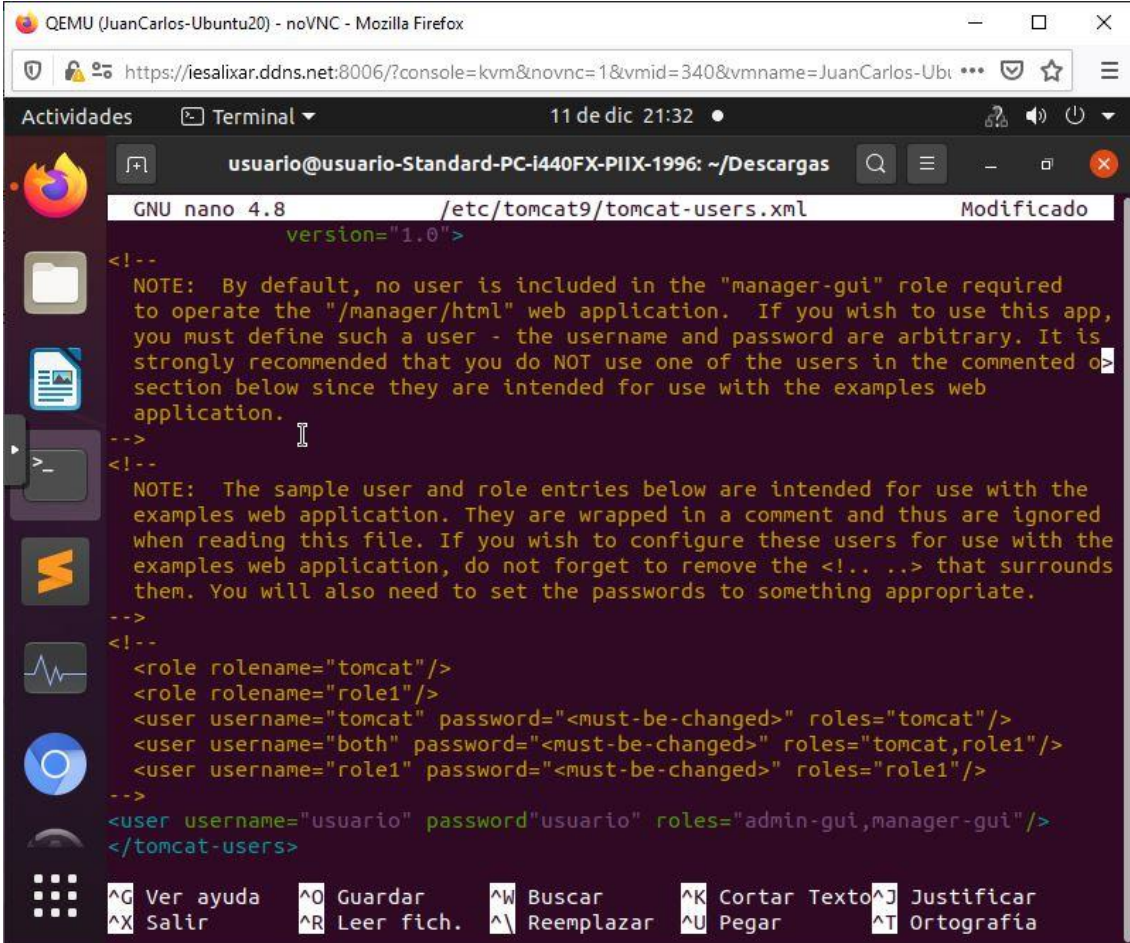
Configuramos el puerto por el cual trabajara nuestro TOMCAT



The screenshot shows a terminal window titled "QEMU (JuanCarlos-Ubuntu20) - noVNC - Mozilla Firefox". The browser address bar shows the URL `https://iesalixar.ddns.net:8006/?console=kvm&novnc=1&vmid=340&vmname=JuanCarlos-Ubuntu20`. The terminal window has a title bar that reads "usuario@usuario-Standard-PC-i440FX-PIIX-1996: ~/Descargas". The terminal content shows the following commands and output:

```
usuario@usuario-Standard-PC-i440FX-PIIX-1996:~/Descargas$ sudo ufw allow 8080tcp
ERROR: No se pudo encontrar un perfil que coincida con «8080tcp»
usuario@usuario-Standard-PC-i440FX-PIIX-1996:~/Descargas$ sudo ufw allow 8080/tcp
Reglas actualizadas
Reglas actualizadas (v6)
usuario@usuario-Standard-PC-i440FX-PIIX-1996:~/Descargas$
```


Configuramos en nombre de usuario y contraseña



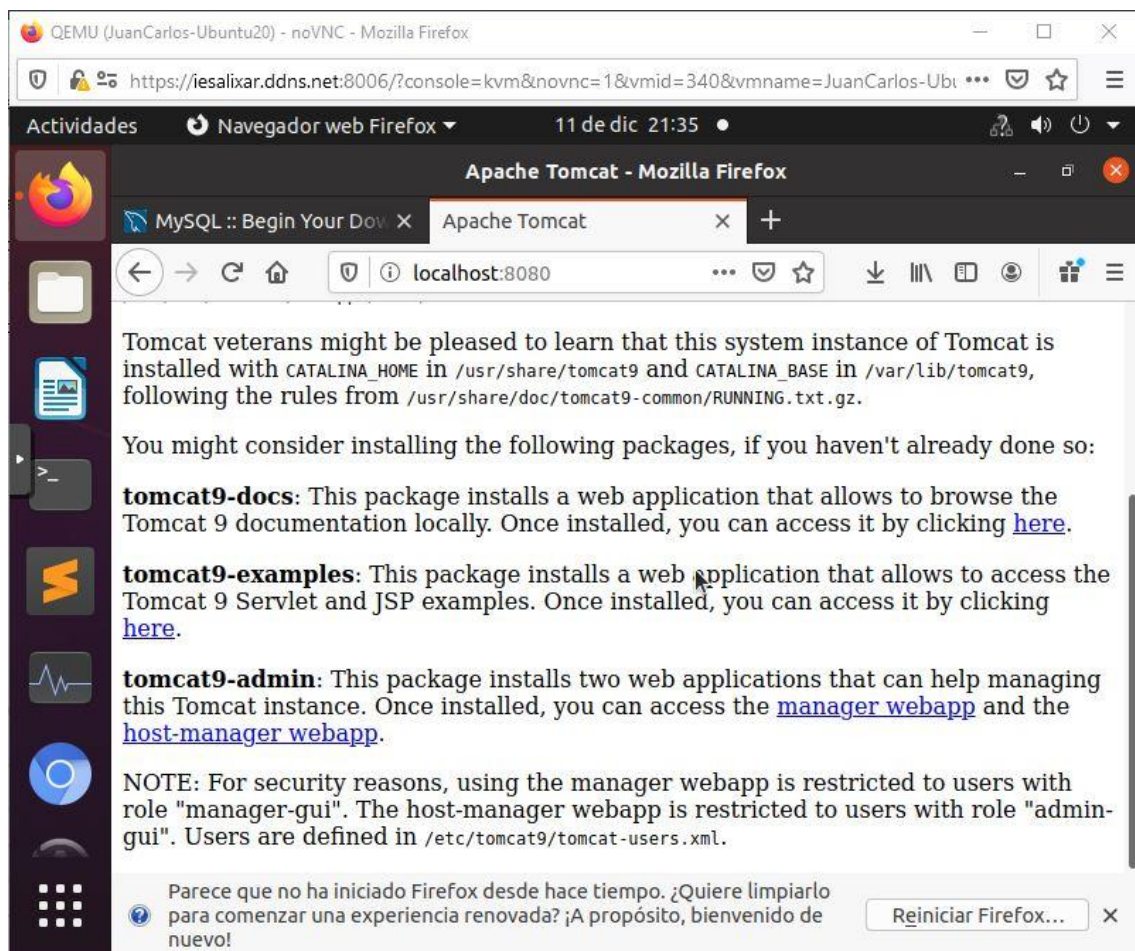
The screenshot shows a QEMU virtual machine window titled "QEMU (JuanCarlos-Ubuntu20) - noVNC - Mozilla Firefox". The address bar displays the URL "https://iesalixar.ddns.net:8006/?console=kvm&novnc=1&vmid=340&vmname=JuanCarlos-Ubuntu20". The desktop environment is Ubuntu 20.04, with the "Actividades" (Activities) overview open. The terminal window shows the user "usuario@usuario-Standard-PC-i440FX-PIIX-1996: ~/Descargas" editing the file "/etc/tomcat9/tomcat-users.xml" with the GNU nano 4.8 editor. The file content is as follows:

```
version="1.0">
<!--
NOTE: By default, no user is included in the "manager-gui" role required
to operate the "/manager/html" web application. If you wish to use this app,
you must define such a user - the username and password are arbitrary. It is
strongly recommended that you do NOT use one of the users in the commented o
section below since they are intended for use with the examples web
application.
-->
<!--
NOTE: 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="<must-be-changed>" roles="tomcat"/>
<user username="both" password="<must-be-changed>" roles="tomcat,role1"/>
<user username="role1" password="<must-be-changed>" roles="role1"/>
-->
<user username="usuario" password="usuario" roles="admin-gui,manager-gui"/>
</tomcat-users>
```

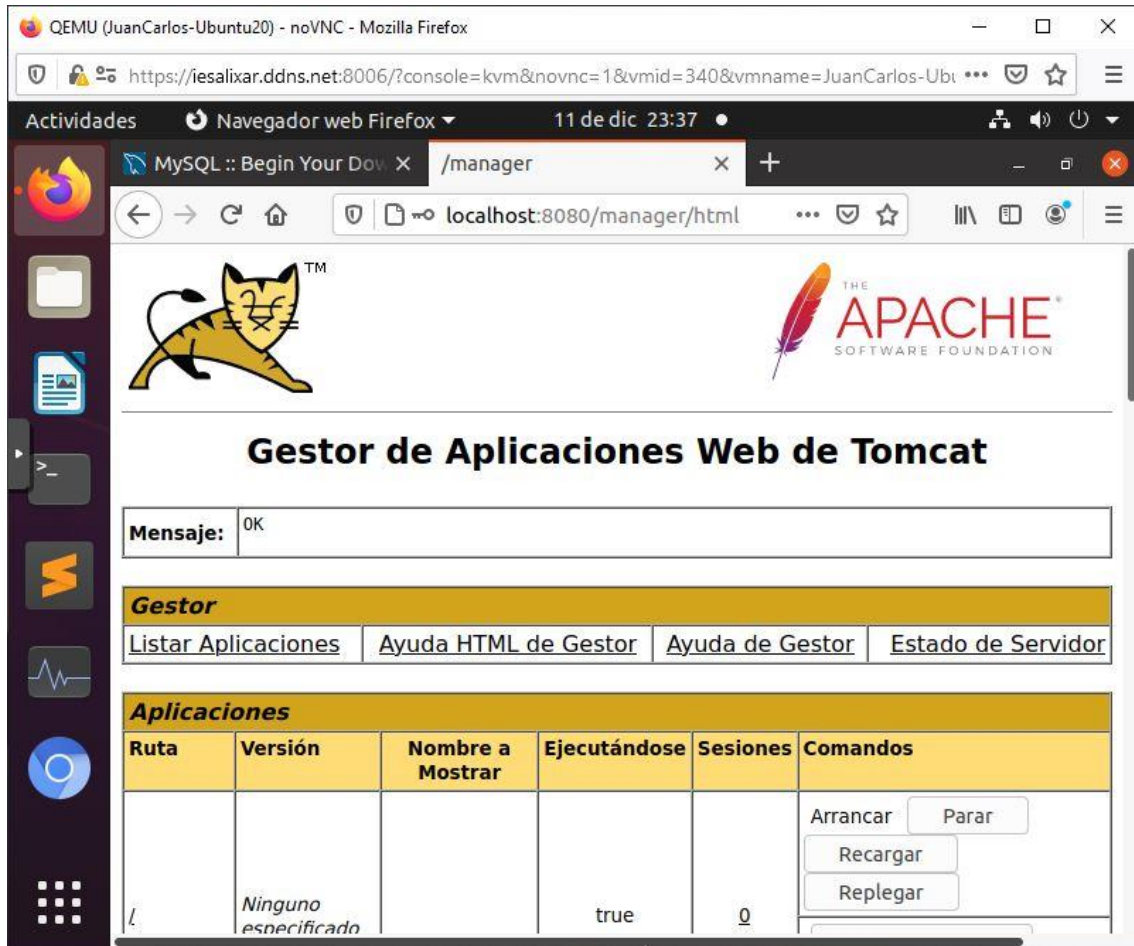
The bottom of the terminal window shows a menu with the following options:

Ver ayuda	Guardar	Buscar	Cortar Texto	Justificar
Salir	Leer fich.	Reemplazar	Pegar	Ortografía

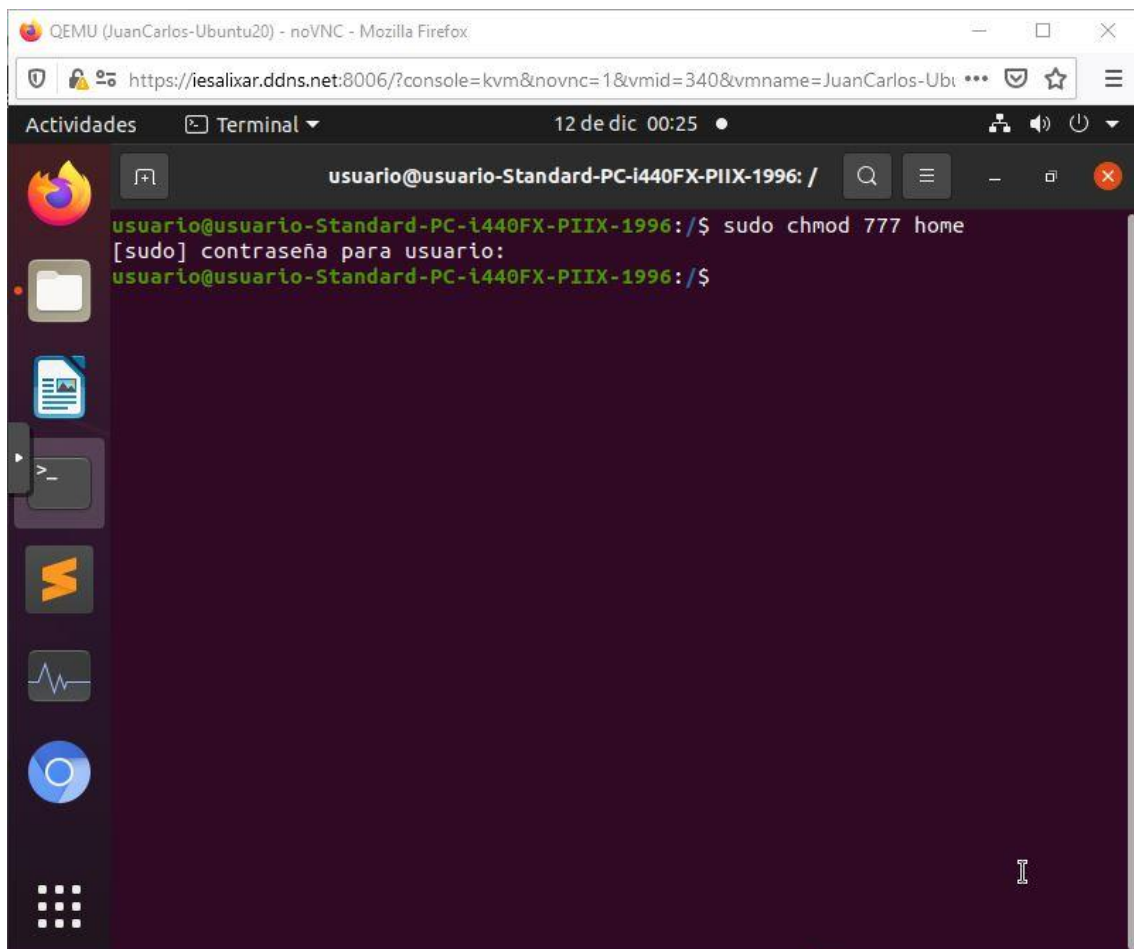
Para comprobar que nuestra instalacion y nuestras credenciales son correctas introduciremos en el navegador "http://localhost:8080"



Si aparece la siguiente pantalla... Todo esta Correcto!!!



Seguidamente procederemos para almacenar los logs necesitamos dar permisos a esa ruta con el siguiente comando “sudo chmod 777 home”

A screenshot of a terminal window titled 'QEMU (JuanCarlos-Ubuntu20) - noVNC - Mozilla Firefox'. The address bar shows a URL: 'https://iesalixar.ddns.net:8006/?console=kvm&novnc=1&vmid=340&vmname=JuanCarlos-Ub...'. The terminal interface has a dark purple background. The prompt is 'usuario@usuario-Standard-PC-i440FX-PIIX-1996: /'. The command 'sudo chmod 777 home' has been entered. The prompt changes to '[sudo] contraseña para usuario:' and then back to 'usuario@usuario-Standard-PC-i440FX-PIIX-1996: /\$' after the password is entered. On the left side of the terminal, there is a vertical dock with icons for Firefox, Files, LibreOffice Writer, LibreOffice Calc, LibreOffice Impress, and a grid icon at the bottom.

Ya tendríamos nuestra instalacion de software lista para el despliegue de nuestras aplicaciones.