

# **INSTALACIÓN, CONFIGURACIÓN Y DOCUMENTACIÓN DEL ENTORNO DE DESARROLLO - TEMA 2**

## **DESARROLLO WEB EN ENTORNO SERVIDOR**

**04/10/2023**

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## USED-Ubuntu Server

### CONFIGURACION INICIAL

#### Configuración de red

Mediante nano entramos al archivo de configuración de red

```
miadmin@ifg-uslimpia:~$ sudo nano /etc/netplan/00-installer-config.yaml

GNU nano 6.2 /etc/netplan/00-installer-config.yaml
# This is the network config written by 'subiquity'
network:
  ethernets:
    enp0s3:
      addresses:
        - 192.168.3.208/24
      nameservers:
        addresses:
          - 8.8.8.8
        search: []
      routes:
        - to: default
          via: 192.168.3.1
  version: 2
```

**sudo netplan apply** para aplicar la configuración de red

```
miadmin@ifg-uslimpia:~$ sudo netplan apply
miadmin@ifg-uslimpia:~$ _
```

#### Comprobaciones de red

**ping 8.8.8.8** para comprobar conectividad con dns

```
miadmin@ifg-uslimpia:~$ ping 8.8.8.8
PING 8.8.8.8 (8.8.8.8) 56(84) bytes of data.
64 bytes from 8.8.8.8: icmp_seq=1 ttl=114 time=14.9 ms
64 bytes from 8.8.8.8: icmp_seq=2 ttl=114 time=12.6 ms
^C
--- 8.8.8.8 ping statistics ---
2 packets transmitted, 2 received, 0% packet loss, time 1008ms
rtt min/avg/max/mdev = 12.563/13.708/14.853/1.145 ms
miadmin@ifg-uslimpia:~$ ^C
miadmin@ifg-uslimpia:~$ ping www.google.es
PING www.google.es (142.250.184.163) 56(84) bytes of data.
64 bytes from mad07s23-in-f3.1e100.net (142.250.184.163): icmp_seq=1 ttl=114 time=13.1 ms
^C
--- www.google.es ping statistics ---
1 packets transmitted, 1 received, 0% packet loss, time 0ms
rtt min/avg/max/mdev = 13.112/13.112/13.112/0.000 ms
miadmin@ifg-uslimpia:~$ _
```

ip a para comprobar la ip

```
miadmin@ifg-used:~$ ip a
1: lo: <LOOPBACK,UP,LOWER_UP> mtu 65536 qdisc noqueue state UNKNOWN group default qlen 1000
    link/loopback 00:00:00:00:00:00 brd 00:00:00:00:00:00
    inet 127.0.0.1/8 scope host lo
        valid_lft forever preferred_lft forever
    inet6 ::1/128 scope host
        valid_lft forever preferred_lft forever
2: enp0s3: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc fq_codel state UP group default qlen 1000
    link/ether 08:00:27:f0:a9:7b brd ff:ff:ff:ff:ff:ff
    inet 192.168.3.208/24 brd 192.168.3.255 scope global enp0s3
        valid_lft forever preferred_lft forever
    inet6 fe80::a00:27ff:fe0:a97b/64 scope link
        valid_lft forever preferred_lft forever
miadmin@ifg-used:~$
```

Actualizar la maquina

**sudo apt update**

**sudo apt update**

```
miadmin@ifg-uslimpia:~$ sudo apt update
[sudo] password for miadmin:
miadmin@ifg-uslimpia:~$ sudo apt upgrade_
```

Conexión mediante SSH desde la maquina Windows para tener fondo blanco

```
C:\Users\daw2>ssh miadmin@192.168.3.208
miadmin@192.168.3.208's password:
Welcome to Ubuntu 22.04.3 LTS (GNU/Linux 5.15.0-84-generic x86_64)
```

Comprobación de particiones

**df-h**

```
miadmin@ifg-used:~$ df -h
Filesystem      Size  Used Avail Use% Mounted on
tmpfs           197M  1,1M  196M   1% /run
/dev/sda2       147G   5,3G  134G   4% /
tmpfs           982M    0  982M   0% /dev/shm
tmpfs           5,0M    0   5,0M   0% /run/lock
/dev/sda3       343G   673M  325G   1% /var
tmpfs           197M   4,0K  197M   1% /run/user/1000
tmpfs           197M   4,0K  197M   1% /run/user/1001
miadmin@ifg-used:~$
```

Cambiar nombre de la maquina entrando a los ficheros **/etc/hosts** y **/etc/hostname** mediante **nano**

```
miadmin@ifg-uslimpia: ~  
GNU nano 6.2 /etc/hosts *  
127.0.0.1 localhost  
127.0.1.1 ifg-used  
  
# The following lines are desirable for IPv6 capable hosts  
::1 ip6-localhost ip6-loopback  
fe00::0 ip6-localnet  
ff00::0 ip6-mcastprefix  
ff02::1 ip6-allnodes  
ff02::2 ip6-allrouters
```

```
miadmin@ifg-uslimpia: ~  
GNU nano 6.2 /etc/hostname *  
ifg-used
```

## APACHE

### sudo apt install apache

```
miadmin@ifg-used: ~  
miadmin@ifg-used:~$ sudo apt install apache
```

### Configuración Apache

Abrimos el puerto 80 para http **sudo ufw allow 80**

```
miadmin@ifg-used:~$ sudo ufw allow 80  
Rule added  
Rule added (v6)  
miadmin@ifg-used:~$ sudo ufw status  
Status: active
```

To	Action	From
--	-----	----
22	ALLOW	Anywhere
80	ALLOW	Anywhere
22 (v6)	ALLOW	Anywhere (v6)
80 (v6)	ALLOW	Anywhere (v6)

### Configurar fichero apache.conf

#### sudo nano /etc/apache2/apache2.conf

```
<Directory /var/www/>  
    Options -Indexes +FollowSymLinks  
    AllowOverride All  
    Require all granted  
</Directory>
```

### Fichero .htaccess

Creado en la carpeta /html por el operadorweb

Directory index indica la pagina de inicio, Redirect 301 es una redireccion del error 301 y Rewrite hace que cuando escribas IP/DWES te lleve al índice del proyecto DWES

```
.htaccess: Bloc de notas  
Archivo Edición Formato Ver Ayuda  
DirectoryIndex index.php index.html  
Redirect 301 /instituto http://ieslossauces.centros.educa.jcyl.es/sitio/  
RewriteEngine on  
RewriteRule ^/DWES /208DWESProyectoDWES/indexProyectoDWES.html
```

## INFORME DE ESTADO DEL SERVICIO

Instalar un navegador

```
miadmin@ifg-used:~$ sudo apt install lynx
```

Comprobar que el módulo status esta activo

```
miadmin@ifg-used:~$ sudo a2enmod status
Module status already enabled
```

Con esto ya funcionan los comandos apache2ctl fullstatus y apache2status

```
miadmin@ifg-used:~$ apache2ctl fullstatus
      Apache Server Status for localhost (via 127.0.0.1)

Server Version: Apache/2.4.52 (Ubuntu)
Server MPM: prefork
Server Built: 2023-05-03T20:02:51

-----

Current Time: Thursday, 05-Oct-2023 09:40:14 CEST
Restart Time: Thursday, 05-Oct-2023 09:35:14 CEST
Parent Server Config. Generation: 1
Parent Server MPM Generation: 0
Server uptime: 4 minutes 59 seconds
Server load: 0.04 0.05 0.01
Total accesses: 0 - Total Traffic: 0 kB - Total Duration: 0
CPU Usage: u0 s.02 cu0 cs0 - .00669% CPU load
0 requests/sec - 0 B/second
1 requests currently being processed, 4 idle workers
```

## CUENTAS DE ADMINISTRACION

### Creación de usuario operadorweb

```
miadmin@ifg-used:~$ miadmin@ifg-used:~$ sudo useradd -d /var/www/html operadorweb
miadmin@ifg-used:~$ sudo usermod -aG www-data operadorweb
miadmin@ifg-used:~$ sudo passwd operadorweb
New password:
Retype new password:
passwd: password updated successfully
miadmin@ifg-used:~$ cat /etc/passwd | grep operadorweb
operadorweb:x:1001:1001::/var/www/html:/bin/sh
miadmin@ifg-used:~$
```

### Dar permisos a operadorweb en su directorio

```
miadmin@ifg-used: ~
miadmin@ifg-used:~$ sudo chown --recursive operadorweb:www-data /var/www/html
miadmin@ifg-used:~$ sudo chmod -R 2775 /var/www/html
miadmin@ifg-used:~$ ls -l /var/www
total 4
drwxrwsr-x 2 operadorweb www-data 4096 oct  3 10:13 html
miadmin@ifg-used:~$
```

### Enjaular usuario

### Quitamos permisos y damos propietario a root en la jaula

```
miadmin@ifg-used:~$ sudo usermod -d /var/www operadorweb
[sudo] password for miadmin:

miadmin@ifg-used:~$ miadmin@ifg-used:~$ sudo chown root:root /var/www
miadmin@ifg-used:~$ sudo chmod 555 /var/www
```



Editamos el fichero `/etc/ssh/sshd_config`

```
miadmin@ifg-used: ~
GNU nano 6.2 /etc/ssh/sshd_config
#ClientAliveInterval 0
#ClientAliveCountMax 3
#UseDNS no
#PidFile /run/sshd.pid
#MaxStartups 10:30:100
#PermitTunnel no
#ChrootDirectory none
#VersionAddendum none

# no default banner path
#Banner none

# Allow client to pass locale environment variables
AcceptEnv LANG LC_*

# override default of no subsystems
#Subsystem sftp /usr/lib/openssh/sftp-server
Subsystem sftp internal-sftp
# Example of overriding settings on a per-user basis
Match Group ftpusers
  ChrootDirectory %h
  ForceCommand internal-sftp -u 2
  AllowTcpForwarding yes
  PermitTunnel no
  X11Forwarding no

^G Help      ^O Write Out  ^W Where Is   ^K Cut        ^T Execute    ^C Location   M-U
^X Exit      ^R Read File  ^\ Replace    ^U Paste      ^J Justify    ^_ Go To Line  M-E
```

Meter al usuario en ftpusers grupo de los usuarios enjaulados

```
miadmin@ifg-used: ~
miadmin@ifg-used:~$ miadmin@ifg-used:~$ sudo cat /etc/group | grep ftpusers
[sudo] password for miadmin:
ftpusers:x:1002:DAW201,operadorweb
miadmin@ifg-used:~$
```

## PHP

Instalar php

```
miadmin@ifg-used:~$ sudo apt update
miadmin@ifg-used:~$ sudo apt install php8.1
```

Cambios en el fichero de configuracion **sudo nano /etc/php/8.1/apache2/php.ini**

```
; On or off to display errors to stdout
; Default Value: On
; Development Value: On
; Production Value: Off
; https://php.net/display-errors
display_errors = On

; The display of errors which occur during PHP's startup
; separately from display_errors. We strongly recommend
; for production servers to avoid leaking configurati
; Default Value: On
; Development Value: On
; Production Value: Off
; https://php.net/display-startup-errors
display_startup_errors = On

; Maximum amount of memory a script may consume
; https://php.net/memory-limit
memory_limit = 256M
```

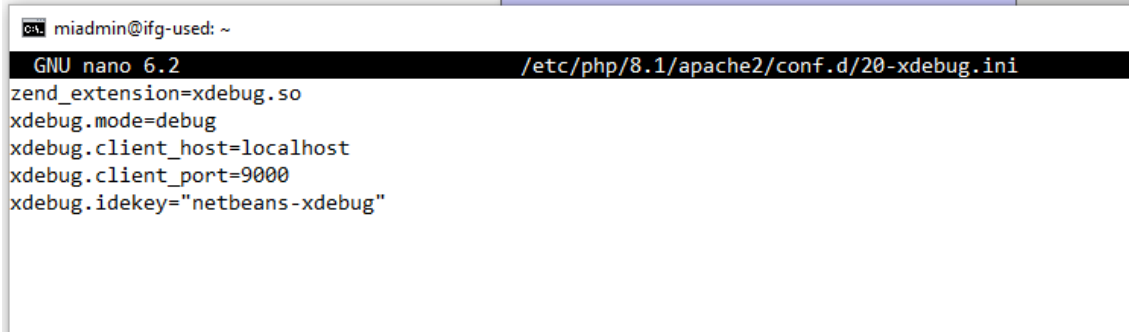
## XDEBUG

### Instalación

```
miadmin@ifg-used:~$ sudo apt install php8.1-xdebug
```

### Configuración

Añadimos estas líneas a el fichero 20-xdebug.ini para la conexión con NetBeans



```
miadmin@ifg-used: ~  
GNU nano 6.2 /etc/php/8.1/apache2/conf.d/20-xdebug.ini  
zend_extension=xdebug.so  
xdebug.mode=debug  
xdebug.client_host=localhost  
xdebug.client_port=9000  
xdebug.idekey="netbeans-xdebug"
```

Abrir el puerto 9000 para la conexión entre xdebug y NetBeans

```
miadmin@ifg-used:~$ sudo ufw allow 9000  
Rule added  
Rule added (v6)  
miadmin@ifg-used:~$
```

## MySQL

Instalamos mysql mediante **sudo apt install mysql-server**

```
miadmin@ifg-used:~$ sudo apt install mysql-server  
Leyendo lista de paquetes... Hecho
```

Mediante **sudo mysql** entramos a la consola mysql **exit** para salir

```
miadmin@ifg-used: ~  
miadmin@ifg-used:~$ sudo mysql  
Welcome to the MySQL monitor.  Commands end with ; or \g.  
Your MySQL connection id is 8  
Server version: 8.0.34-0ubuntu0.22.04.1 (Ubuntu)  
  
Copyright (c) 2000, 2023, Oracle and/or its affiliates.  
  
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affiliates. Other names may be trademarks of their respective  
owners.  
  
Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.  
  
mysql>
```

Entrar a el fichero **sudo nano /etc/mysql/mysql.conf.d/mysqld.conf**

Comentar esas dos líneas para permitir la conexion desde cualquier dispositivo

```
miadmin@ifg-used: ~  
GNU nano 6.2 /etc/mysql/mysql.conf.d/mysqld.cnf *  
  
# If MySQL is running as a replication slave, this should be  
# changed. Ref https://dev.mysql.com/doc/refman/8.0/en/server-system-variables.html#sysvar_tmpdir  
# tmpdir = /tmp  
#  
# Instead of skip-networking the default is now to listen only on  
# localhost which is more compatible and is not less secure.  
#bind-address = 127.0.0.1  
#mysqlx-bind-address = 127.0.0.1  
#
```

Reiniciamos el servicio con **sudo service mysql restart**

```
miadmin@ifg-used: ~  
miadmin@ifg-used:~$ sudo service mysql restart  
miadmin@ifg-used:~$
```

Comprobamos porque puerto escucha mediante ss -punta

```
miadmin@ifg-used:~$ ss -punta
Netid      State      Recv-Q     Send-Q     Local Address:Port      Peer Address:Port      Process
udp        UNCONN     0           0           127.0.0.53%lo:53        0.0.0.0:*
tcp        LISTEN     0           4096        127.0.0.53%lo:53        0.0.0.0:*
tcp        LISTEN     0           128         0.0.0.0:22              0.0.0.0:*
tcp        ESTAB      0           0           192.168.3.208:22        192.168.3.8:54664
tcp        LISTEN     0           70          *:33060                 *:*
tcp        LISTEN     0           151          *:3306                  *:*
tcp        LISTEN     0           511          *:80                    *:*
tcp        LISTEN     0           128         [::]:22                 [::]:*
```

Abrimos el mediante **sudo ufw allow 3306** y **sudo ufw status** para comprobar que se ha abierto

```
miadmin@ifg-used:~$ sudo ufw allow 3306
Rule added
Rule added (v6)

miadmin@ifg-used:~$ sudo ufw status
Status: active

To          Action     From
--          -
22          ALLOW      Anywhere
80          ALLOW      Anywhere
9000        ALLOW      Anywhere
3306        ALLOW      Anywhere
22 (v6)     ALLOW      Anywhere (v6)
80 (v6)     ALLOW      Anywhere (v6)
9000 (v6)   ALLOW      Anywhere (v6)
3306 (v6)   ALLOW      Anywhere (v6)
```

Instalar la instalación segura de mysql

```
miadmin@ifg-used:~$ sudo mysql_secure_installation
```

Verificación por contraseña yes

```
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: y
```

### Nivel de seguridad LOW

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

### Eliminar el usuario anónimo yes

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  
Success.

### No permite que root se conecte remotamente yes

Normally, root should only be allowed to connect from 'localhost'. This ensures that someone cannot guess at the root password from the network.

Disallow root login remotely? (Press y|Y for Yes, any other key for No) : y  
Success.

### Eliminar la base de datos test yes

By default, MySQL comes with a database named 'test' that anyone can access. This is also intended only for testing, and should be removed before moving into a production environment.

Remove test database and access to it? (Press y|Y for Yes, any other key for No) : y  
- Dropping test database...  
Success.

### Recargar los privilegios yes

```
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!
```

Instalamos estos paquetes para conectar PHP con MySQL

```
miadmin@ifg-used:~$ sudo apt install libapache2-mod-php8.1 php8.1-mysql
```

Creación de usuario administrador de mysql

```
mysql> CREATE USER 'admindb'@'%' IDENTIFIED BY 'P@ssw0rd';  
Query OK, 0 rows affected (0,05 sec)
```

```
mysql> GRANT ALL PRIVILEGES ON *.* TO 'admindb'@'%' WITH GRANT OPTION;  
Query OK, 0 rows affected (0,01 sec)
```

Probar conexión con el nuevo usuario

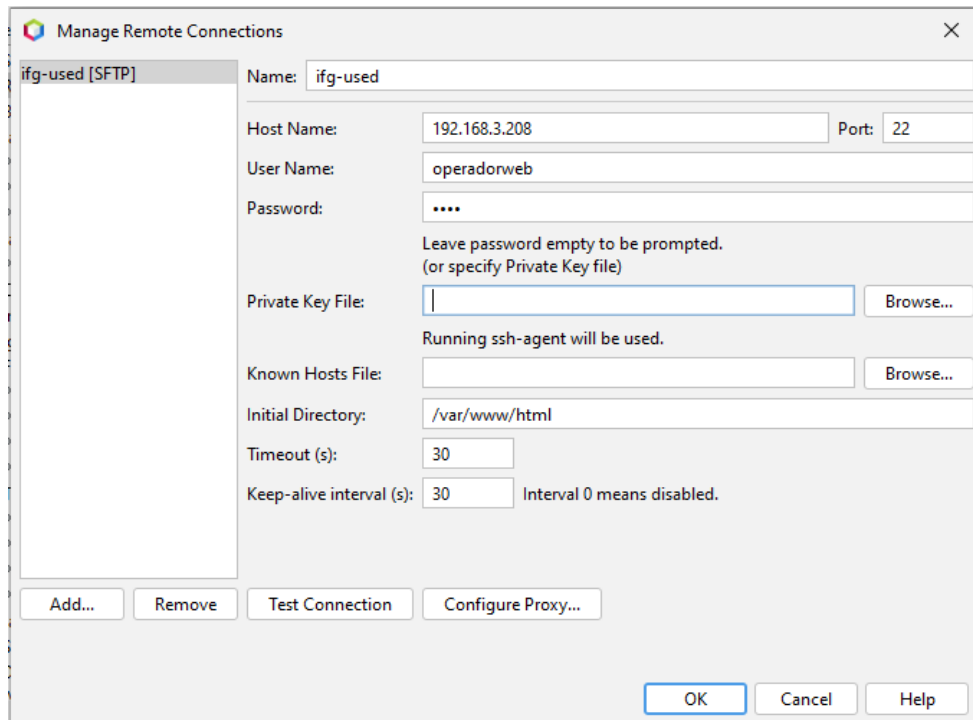
```
miadmin@ifg-used:~$ mysql -u admindb -p  
Enter password:
```

## WXED-Windows X

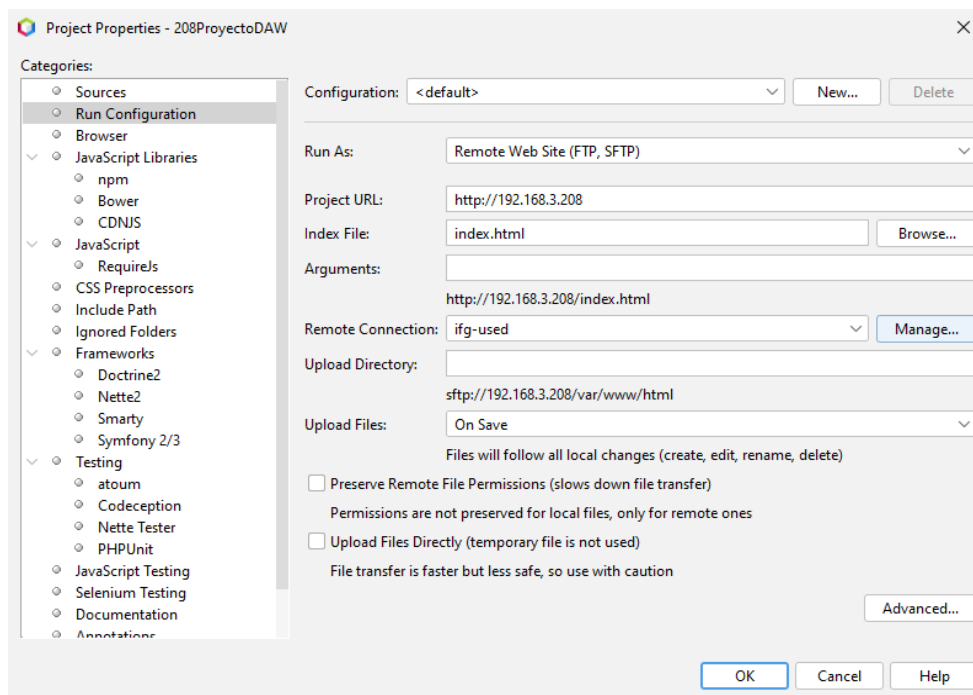
### NetBeans

Conexión entre el proyecto y el servidor

Configuración de la conexión remota



Configuración del proyecto





## FileZilla

Conexión mediante FileZilla desde la maquina Windows desde las dos cuentas

