



# **Administración de Sistemas Operativos y Redes de Computadores 2021-22**

## **Práctica 3**

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## Rocky Linux

### VSFTPD (FTP):

Primero instalamos el paquete:

```
dnf -y install vsftpd
```

```
dnf -y install ftp (para el cliente)
```

Luego crearemos los 2 usuarios que deseamos usar, el primero estará enjaulado, el segundo no:

```
adduser ftp1
passwd ftp1
(ftp1, ASORC123)
adduser ftp2
passwd ftp2
(ftp2,ASORC123)
```

Luego en la carpeta de cada usuario crearemos una carpeta ftp\_folder, y quitaremos los permisos de escritura :

```
mkdir ftp_folder
chown ftp2:ftp2 ftp_folder
chmod a-w ftp_folder
comprobamos que los permisos estén bien:
```

```
[root@localhost ftp2]# ls -l
total 0
dr-xr-xr-x 3 ftp2 ftp2 19 nov 13 21:36 ftp_folder
[root@localhost ftp2]#
```

Luego crearemos una carpeta donde el usuario podrá escribir:

```
mkdir /ftp_folder/files
chown ftp2:ftp2 /ftp_folder/files
Comprobamos que los permisos estén bien:
```

```
[root@localhost ftp2]# ls -l ftp_folder/
total 0
drwxr-xr-x 3 ftp2 ftp2 16 nov 13 21:54 files
[root@localhost ftp2]#
```

Luego para configurar el acceso deberemos modificar el archivo /etc/vsftpd.conf, y asegurarnos de tener las siguientes líneas:

```
anonymous_enable=NO
local_enable=YES
write_enable=YES
chroot_local_user=YES
chroot_list_enable=YES
chroot_list_file=/etc/vsftpd/nonchroot_list
user_sub_token=$USER
```

```
local_root=/home/$USER/ftp_folder
userlist_enable=YES
userlist_file=/etc/vsftpd/user_list
userlist_deny=NO
```

Luego crearemos/modificaremos 2 archivos, /etc/vsftpd/user\_list, donde agregaremos los usuarios ftp1 y ftp2, y /etc/vsftpd/nonchroot\_list, donde agregaremos al usuario que deseamos no enjaular, en este caso ftp2.

Una vez hecho esto reiniciamos el servicio

```
systemctl restart vsftpd
```

Y podemos comprobar el funcionamiento del servicio:

```
ftp -p 192.168.137.222
```

```
[root@localhost ~]# ftp -p 192.168.137.222
Connected to 192.168.137.222 (192.168.137.222).
220 (vsFTPd 3.0.3)
Name (192.168.137.222:root): ftp1
331 Please specify the password.
Password:

230 Login successful.
Remote system type is UNIX.
Using binary mode to transfer files.
ftp> ls -l
227 Entering Passive Mode (192,168,137,222,208,157).
150 Here comes the directory listing.
drwxr-xr-x  4 1007      1007          24 Nov 13 20:52 files
226 Directory send OK.
ftp> cd files
250 Directory successfully changed.
ftp> mkdir prueba0
257 "/files/prueba0" created
ftp> ls -l
227 Entering Passive Mode (192,168,137,222,153,20).
150 Here comes the directory listing.
drwxrwxr-x  2 1007      1007          6 Nov 13 20:52 0
drwxr-xr-x  2 1007      1007          6 Nov 13 20:52 1
drwxr-xr-x  2 1007      1007         6 Nov 13 21:06 prueba0
226 Directory send OK.
ftp> █
```

El usuario ftp1 no puede salir del directorio:

```
ftp> cd ..
250 Directory successfully changed.
ftp> cd ..
250 Directory successfully changed.
ftp> cd ..
250 Directory successfully changed.
ftp> cd ..
250 Directory successfully changed.
ftp> ls -l
227 Entering Passive Mode (192,168,137,222,110,57).
150 Here comes the directory listing.
drwxr-xr-x  5 1007      1007         39 Nov 13 21:06 files
226 Directory send OK.
ftp> █
```

Pero el usuario ftp2 si:

```
Name (192.168.137.222:root): ftp2
331 Please specify the password.
Password:

230 Login successful.
Remote system type is UNIX.
Using binary mode to transfer files.
ftp> ls -l
227 Entering Passive Mode (192,168,137,222,226,125).
150 Here comes the directory listing.
drwxr-xr-x  3 1008    1008          16 Nov 13 20:54 files
226 Directory send OK.
ftp> ls -la
227 Entering Passive Mode (192,168,137,222,91,47).
150 Here comes the directory listing.
dr-xr-xr-x  3 1008    1008          19 Nov 13 20:36 .
drwx----- 4 1008    1008          96 Nov 13 20:36 ..
drwxr-xr-x  3 1008    1008          16 Nov 13 20:54 files
226 Directory send OK.
ftp> cd ..
250 Directory successfully changed.
ftp> ls -l
227 Entering Passive Mode (192,168,137,222,66,172).
150 Here comes the directory listing.
dr-xr-xr-x  3 1008    1008          19 Nov 13 20:36 ftp_folder
226 Directory send OK.
ftp>
```

## Openfire + Spark

wget <http://download.igniterealtime.org/openfire/openfire-4.6.4-1.i686.rpm>

yum install -y openfire-4.6.4-1.i686.rpm

yum install -y glibc.i686

chkconfig openfire on

systemctl start openfire

yum install -y postgresql postgresql-server postgresql-devel postgresql-libs

postgresql-setup initdb

systemctl start postgresql

systemctl enable postgresql

systemctl status postgresql

```
[root@localhost ~]# systemctl status postgresql
● postgresql.service - PostgreSQL database server
   Loaded: loaded (/usr/lib/systemd/system/postgresql.service; enabled; vendor preset: enabled)
   Active: active (running) since Sat 2021-11-13 23:47:20 CET; 10s ago
     Main PID: 13345 (postmaster)
        Tasks: 8 (limit: 18445)
       Memory: 15.9M
      CGroup: /system.slice/postgresql.service
              └─13345 /usr/bin/postmaster -D /var/lib/pgsql/data
                  └─13346 postgres: logger process
                      └─13348 postgres: checkpoint process
                          └─13349 postgres: writer process
                              └─13350 postgres: wal writer process
                                  └─13351 postgres: autovacuum launcher process
                                      └─13352 postgres: stats collector process
                                          └─13353 postgres: bgworker: logical replication launcher
```

su postgres

createdb openfire

createuser -P openfire

Password: 123456

psql -U postgres -d postgres -c "ALTER USER postgres WITH PASSWORD '123456';"

nano /var/lib/pgsql/data/pg\_hba.conf

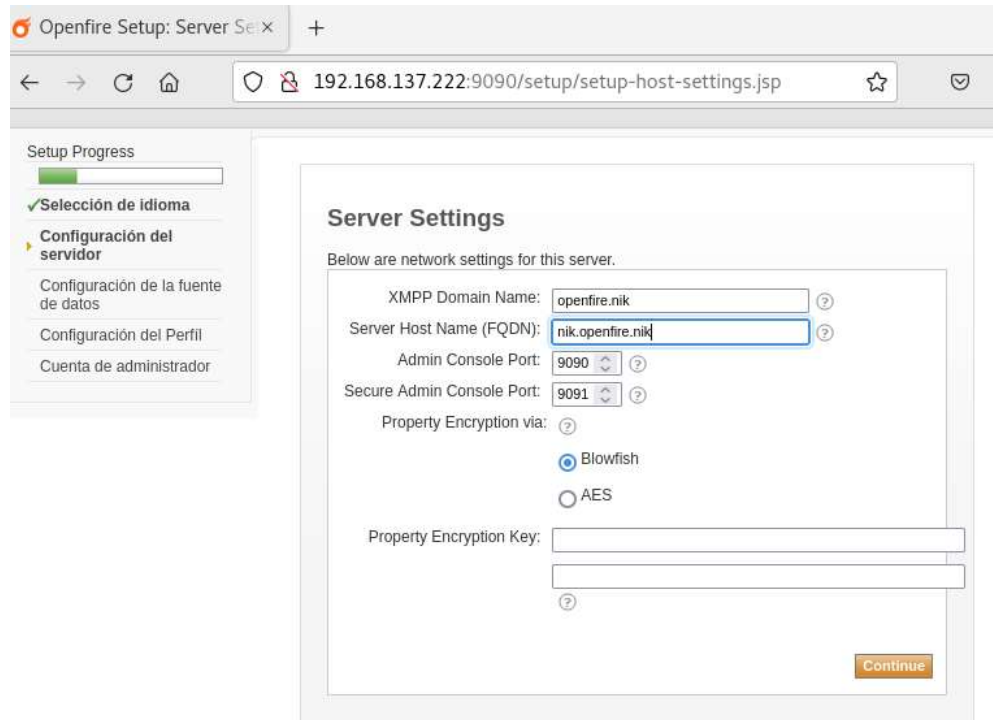
```
GNU nano 2.9.8 /var/lib/pgsql/data/pg_hba.conf
# TYPE DATABASE USER ADDRESS METHOD
# "local" is for Unix domain socket connections only
local all all md5
# IPv4 local connections:
host all all 127.0.0.1/32 md5
# IPv6 local connections:
host all all ::1/128 md5
# Allow replication connections from localhost, by a user with the
# replication privilege.
local replication all peer
host replication all 127.0.0.1/32 ident
host replication all ::1/128 ident
```

systemctl restart postgresql

Seguimos los pasos de instalación:

Domain name: openfire-nik

server host name :openfire-nik  
openfire  
123456  
[admin@example.com](mailto:admin@example.com)  
ASORC123



Openfire Setup: Server Settings

192.168.137.222:9090/setup/setup-host-settings.jsp

Setup Progress

- ✓ Selección de idioma
- Configuración del servidor
- Configuración de la fuente de datos
- Configuración del Perfil
- Cuenta de administrador

### Server Settings

Below are network settings for this server.

XMPP Domain Name:

Server Host Name (FQDN):

Admin Console Port:

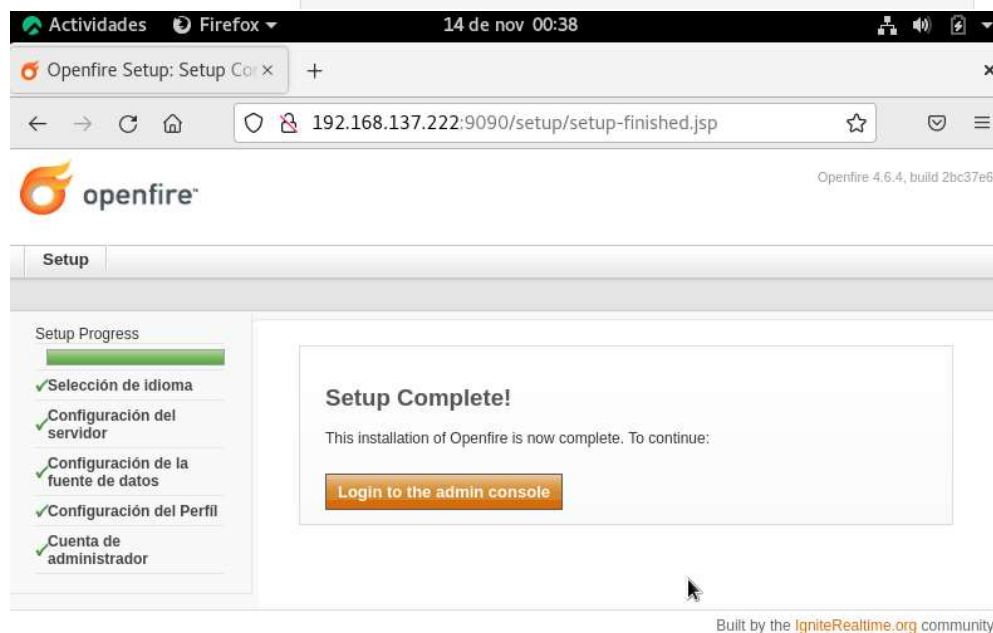
Secure Admin Console Port:

Property Encryption via:

☒ Blowfish

☐ AES

Property Encryption Key:



Actividades Firefox 14 de nov 00:38

Openfire Setup: Setup Complete

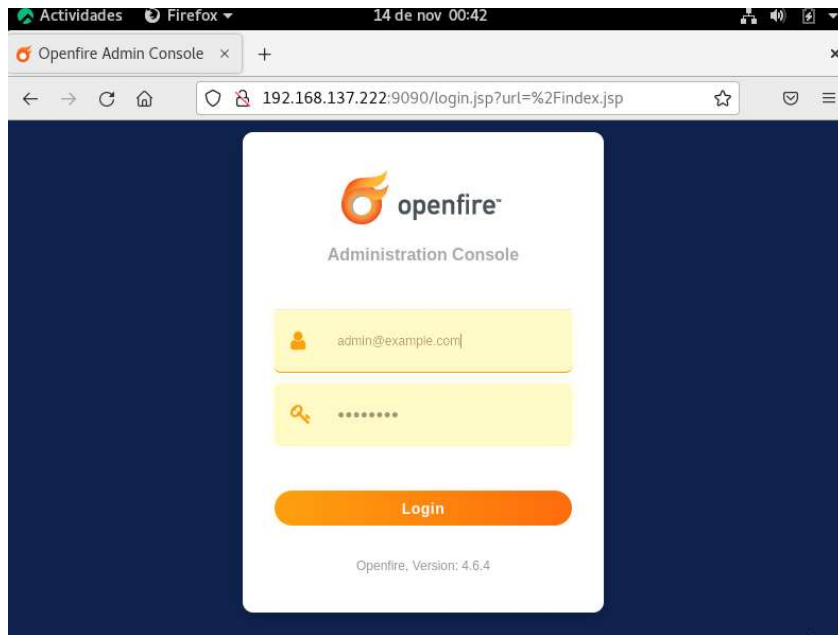
192.168.137.222:9090/setup/setup-finished.jsp

Openfire 4.6.4, build 2bc37e6

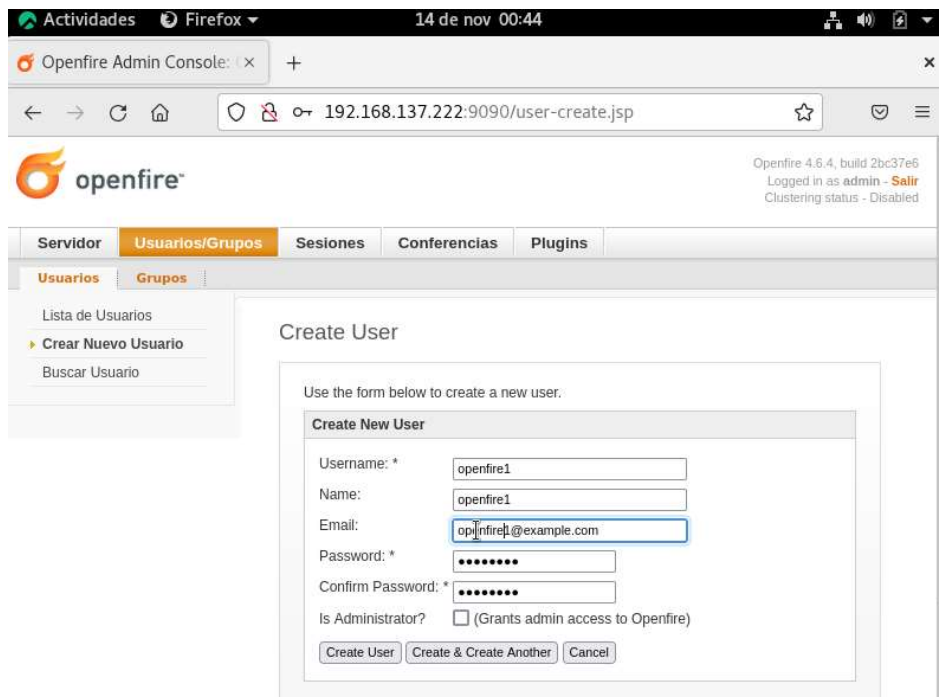
### Setup Complete!

This installation of Openfire is now complete. To continue:

Built by the [IgniteRealtime.org](http://IgniteRealtime.org) community.



### Creamos nuevos usuarios



En las maquinas clientes instalamos Spark:

(Linux):

yum install java

wget <https://www.igniterealtime.org/downloadServlet?filename=spark/spark-2.9.4.rpm>

yum install -y downloadServlet?filename=spark/spark-2.9.4.rpm

(Windows) <https://www.igniterealtime.org/downloads/index.jsp>



**Preferences**

Advanced connection preferences

General Security Proxy SSO Certificates Mutual auth

Encryption mode

☐ Required

☒ If possible

☐ Disabled

☐ Use Direct TLS method

☒ Disable certificate hostname verification (not recommended)

☒ Allow for client side authentication

Forget All Login Passwords

**Preferences**

Advanced connection preferences

General Security Proxy SSO Certificates Mutual auth

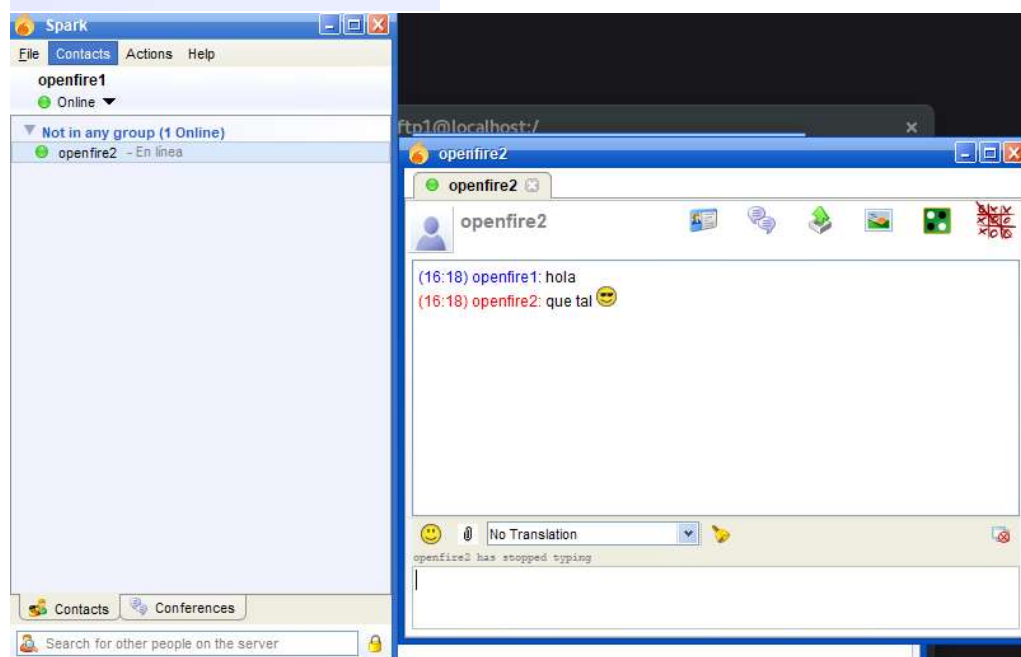
Subject	Validity	Exempted
OU=VeriSign Trust Network,OU=(c) 1998 VeriSign, Inc. - For authorized use only,OU=Class...	Valid	<input type="checkbox"/>
DigiCert Assured ID Root G3	Valid	<input type="checkbox"/>
VeriSign Universal Root Certification Authority	Valid	<input type="checkbox"/>
DigiCert Trusted Root G4	Valid	<input type="checkbox"/>
IdenTrust Public Sector Root CA 1	Valid	<input type="checkbox"/>
UTN-USERFirst-Object	Expired	<input type="checkbox"/>
GeoTrust Universal CA	Valid	<input type="checkbox"/>
DigiCert Global Root G3	Valid	<input type="checkbox"/>
Deutsche Telekom Root CA 2	Expired	<input type="checkbox"/>
Entrust Root Certification Authority - EC1	Valid	<input type="checkbox"/>
OU=Security Communication RootCA1,O=SECOM Trust.net,C=JP	Valid	<input type="checkbox"/>
GlobalSign	Valid	<input type="checkbox"/>
DST Root CA X3	Expired	<input type="checkbox"/>
COMODO ECC Certification Authority	Valid	<input type="checkbox"/>
Entrust.net Certification Authority (2048)	Valid	<input type="checkbox"/>
AddTrust External CA Root	Expired	<input type="checkbox"/>
GlobalSign	Valid	<input type="checkbox"/>
USERTrust RSA Certification Authority	Valid	<input type="checkbox"/>
DigiCert Assured ID Root CA	Valid	<input type="checkbox"/>
DigiCert Global Root G2	Valid	<input type="checkbox"/>
Actalis Authentication Root CA	Valid	<input type="checkbox"/>
DigiCert Assured ID Root G2	Valid	<input type="checkbox"/>

☒ Accept self-signed ☒ Accept expired ☐ Check CRL ☐ Check OCSP

☒ Accept not valid yet ☒ Accept revoked ☐ Allow soft-fail policy

Add certificate to Tru...

Ok Cancel Use Default



Proxy(squid):

Instalamos el paquete:

```
dnf install -y squid
```

Modificamos el archivo de configuración:

```
nano /etc/squid/squid.conf
```

Agregamos las siguientes líneas:

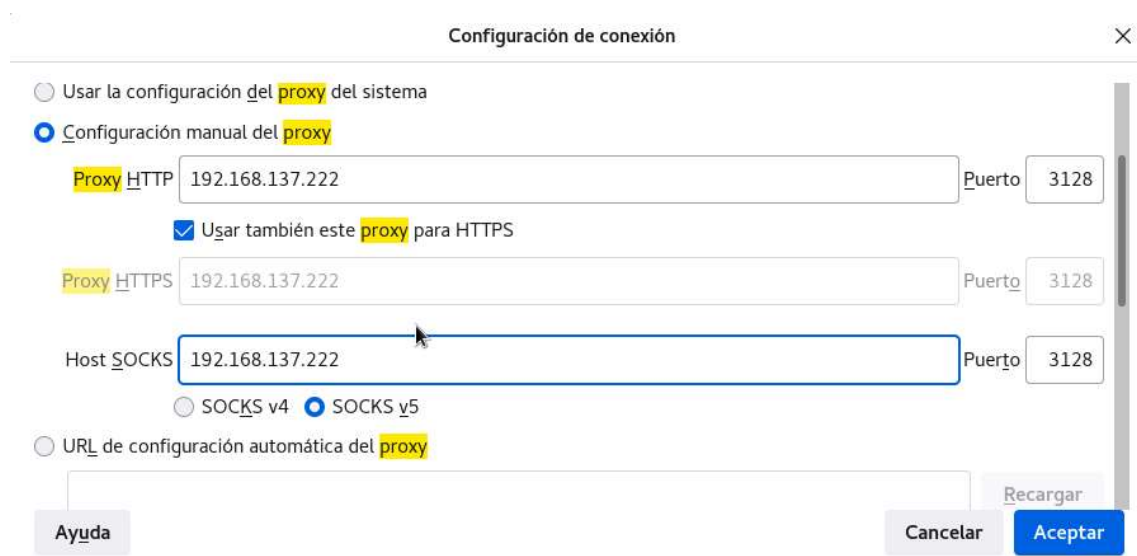
```
acl denegar dstdomain "/etc/squid/bad-sites.acl"
```

```
http_access deny denegar
```

Crear fichero bad-sites.acl en la carpeta squid:

```
.facebook.com
```

En el navegador:



Configuración de conexión

☐ Usar la configuración del proxy del sistema

☒ Configuración manual del proxy

Proxy HTTP 192.168.137.222 Puerto 3128

☒ Usar también este proxy para HTTPS

Proxy HTTPS 192.168.137.222 Puerto 3128

Host SOCKS 192.168.137.222 Puerto 3128

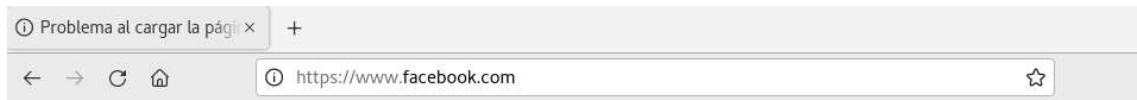
☐ SOCKS v4 ☒ SOCKS v5

☐ URL de configuración automática del proxy

Ayuda Cancelar Recargar Aceptar

```
systemctl restart squid
```

Y comprobamos que funciona:



## El servidor proxy está rechazando las conexiones

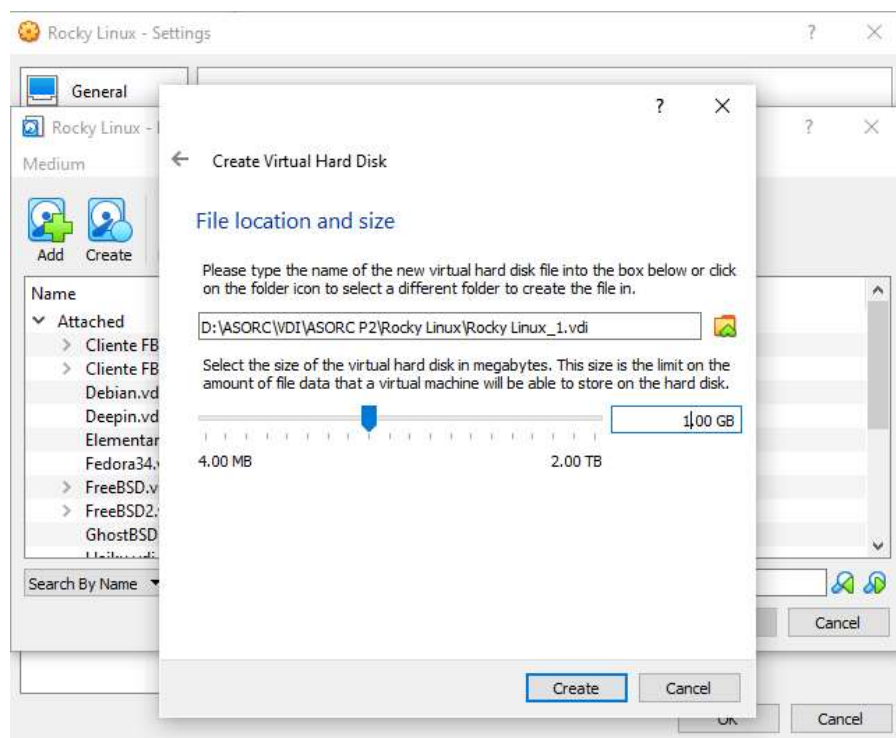
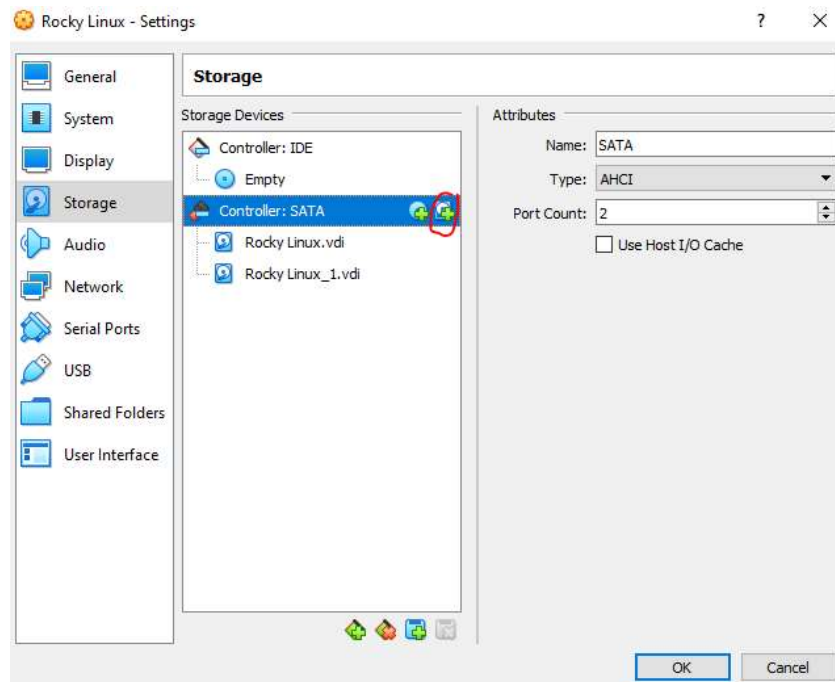
Firefox está configurado para usar un servidor proxy que está rechazando las conexiones.

- Compruebe la configuración de proxy para asegurarse de que es correcta.
- Contacte con su administrador de red para asegurarse de que el servidor proxy está funcionando.

[Reintentar](#)

## RAID:

Creamos 4 nuevas unidades de almacenamiento:



Comprobamos que tenemos los 4 discos asignados (sde,sdb,sdc,sdd):

```
[root@mail np31]# fdisk -l
Disco /dev/sde: 1 GiB, 1073741824 bytes, 2097152 sectores
Unidades: sectores de 1 * 512 = 512 bytes
Tamaño de sector (lógico/físico): 512 bytes / 512 bytes
Tamaño de E/S (mínimo/óptimo): 512 bytes / 512 bytes

Disco /dev/sdb: 1 GiB, 1073741824 bytes, 2097152 sectores
Unidades: sectores de 1 * 512 = 512 bytes
Tamaño de sector (lógico/físico): 512 bytes / 512 bytes
Tamaño de E/S (mínimo/óptimo): 512 bytes / 512 bytes

Disco /dev/sdc: 1 GiB, 1073741824 bytes, 2097152 sectores
Unidades: sectores de 1 * 512 = 512 bytes
Tamaño de sector (lógico/físico): 512 bytes / 512 bytes
Tamaño de E/S (mínimo/óptimo): 512 bytes / 512 bytes
```

Creamos partición en los 4 discos:

```
[root@mail np31]# parted --script /dev/sdb "mklabel gpt"
[root@mail np31]# parted --script /dev/sdc "mklabel gpt"
[root@mail np31]# parted --script /dev/sdd "mklabel gpt"
[root@mail np31]# parted --script /dev/sde "mklabel gpt"
[root@mail np31]# parted --script /dev/sdb "mkpart primary 0% 100%"
[root@mail np31]# parted --script /dev/sdc "mkpart primary 0% 100%"
[root@mail np31]# parted --script /dev/sdd "mkpart primary 0% 100%"
[root@mail np31]# parted --script /dev/sde "mkpart primary 0% 100%"
[root@mail np31]# parted --script /dev/sde "set 1 raid on"
[root@mail np31]# parted --script /dev/sdd "set 1 raid on"
[root@mail np31]# parted --script /dev/sdb "set 1 raid on"
[root@mail np31]# parted --script /dev/sdc "set 1 raid on"
[root@mail np31]#
```

Configuramos RAID 5:

```
[root@mail /]# mdadm --create /dev/md0 --level=5 --raid-devices=4 /dev/sdb1 /dev/sdc1 /dev/sde1 /dev/sdd1
mdadm: Defaulting to version 1.2 metadata
mdadm: array /dev/md0 started.
[root@mail /]#
```

Comprobamos que RAID 5 esté activo en los 4 discos:

```
[root@mail /]# cat /proc/mdstat
Personalities : [raid6] [raid5] [raid4]
md0 : active raid5 sdd1[4] sde1[2] sdc1[1] sdb1[0]
      3133440 blocks super 1.2 level 5, 512k chunk, algorithm 2 [4/4] [UUUU]

unused devices: <none>
[root@mail /]#
```

Modificamos el siguiente fichero:

nano /etc/sysconfig/raid-check

CHECK\_DEVS="md0"

Lo montamos en nuestro Sistema:

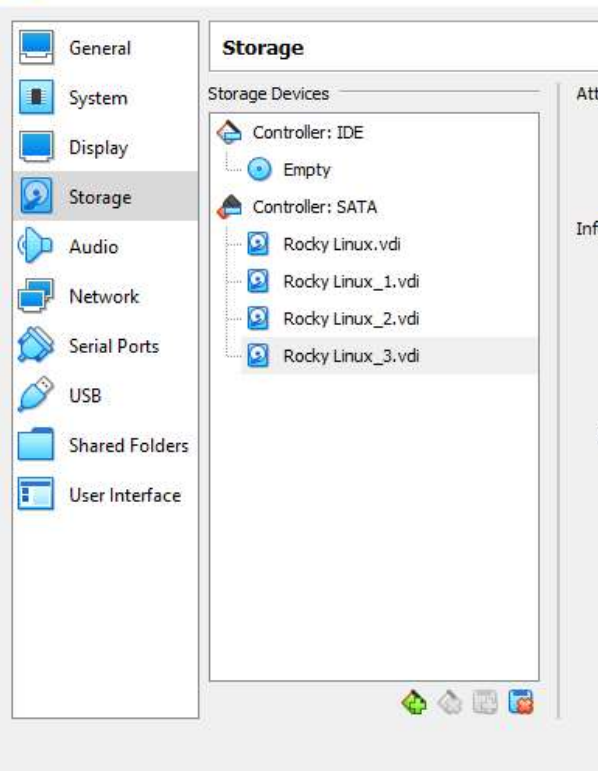
```
[root@mail /]# mkfs.xfs -i size=1024 -s size=4096 /dev/md0
meta-data=/dev/md0            isize=1024    agcount=8, agsize=97792 blks
                        =               sectsz=4096    attr=2, projid32bit=1
                        =               crc=1        finobt=1, sparse=1, rmapbt=0
                        =               reflink=1
data              =               bsize=4096    blocks=782336, imaxpct=25
                        =               sunit=128    swidth=384 blks
naming            =version 2      bsize=4096    ascii-ci=0, ftype=1
log              =internal log    bsize=4096    blocks=2560, version=2
                        =               sectsz=4096    sunit=1 blks, lazy-count=1
realtime          =none           extsz=4096    blocks=0, rtextents=0
[root@mail /]# mount /dev/md0 /mnt
[root@mail /]# df -hT
```

S.ficheros	Tipo	Tamaño	Usados	Disp	Uso%	Montado en
devtmpfs	devtmpfs	1,5G	0	1,5G	0%	/dev
tmpfs	tmpfs	1,5G	16K	1,5G	1%	/dev/shm
tmpfs	tmpfs	1,5G	9,4M	1,5G	1%	/run
tmpfs	tmpfs	1,5G	0	1,5G	0%	/sys/fs/cgroup
/dev/mapper/rl-root	xfs	18G	7,6G	11G	43%	/
/dev/sda1	xfs	1014M	289M	726M	29%	/boot
tmpfs	tmpfs	294M	0	294M	0%	/run/user/2
tmpfs	tmpfs	294M	32K	294M	1%	/run/user/1000
/dev/md0	xfs	3,0G	53M	3,0G	2%	/mnt

```
[root@mail /]#
```

Desmontamos un disco:

Rocky Linux - Settings



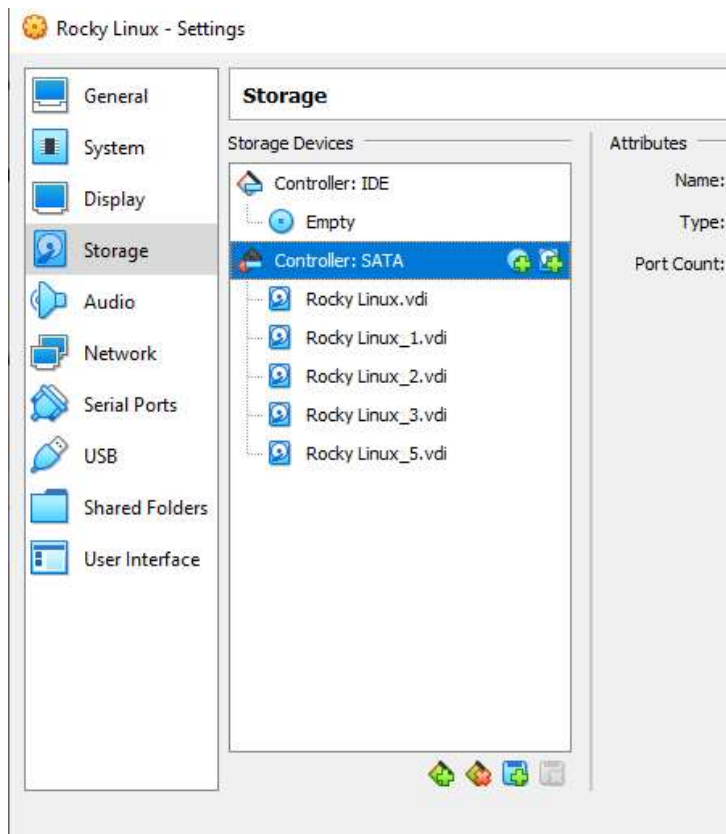
Comprobamos que hay fallo en el disco “sde”:

```
[root@mail /]# cat /proc/mdstat
Personalities : [raid6] [raid5] [raid4]
md0 : active (auto-read-only) raid5 sdc1[1] sdd1[4] sdb1[0]
      3133440 blocks super 1.2 level 5, 512k chunk, algorithm 2 [4/3] [UU_U]

unused devices: <none>
[root@mail /]#
```

Añadimos un nuevo disco:





Arreglamos el fallo reemplazando el disco:

```
[root@mail /]# parted --script /dev/sde "mklabel gpt"
[root@mail /]# parted --script /dev/sde "mkpart primary 0% 100%"
[root@mail /]# parted --script /dev/sde "set 1 raid on"
[root@mail /]# mdadm --manage /dev/md0 --add /dev/sde1
mdadm: added /dev/sde1
[root@mail /]# cat /proc/mdstat
Personalities : [raid6] [raid5] [raid4]
md0 : active raid5 sde1[5] sdd1[4] sdc1[1] sdb1[0]
      3133440 blocks super 1.2 level 5, 512k chunk, algorithm 2 [4/3] [UU_U]
      [=====>.....]  recovery = 52.6% (550588/1044480) finish=0.0min speed=11
9117K/sec

unused devices: <none>
[root@mail /]# cat /proc/mdstat
Personalities : [raid6] [raid5] [raid4]
md0 : active raid5 sde1[5] sdd1[4] sdc1[1] sdb1[0]
      3133440 blocks super 1.2 level 5, 512k chunk, algorithm 2 [4/4] [UUUU]

unused devices: <none>
[root@mail /]#
```



## Nagios:

Instalamos todas las dependencias:

```
dnf update
dnf install -y php perl @httpd wget unzip glibc automake glibc-common gettext autoconf php
php-cli gcc gd gd-devel net-snmp openssl-devel unzip net-snmp postfix net-snmp-utils
dnf -y groupinstall "Development Tools"
systemctl enable --now httpd php-fpm
systemctl start httpd
systemctl start php-fpm
systemctl status httpd
systemctl status php-fpm
```

Instalamos nagios:

```
wget https://assets.nagios.com/downloads/nagioscore/releases/nagios-4.4.6.tar.gz
tar -xzf nagios-4.4.6.tar.gz
cd nagios-*/
./configure
make all
make install-groups-users
usermod -aG nagios apache
make install
make install-init
make install-daemoninit
make install-commandmode
make install-config
make install-webconf
htpasswd -c /usr/local/nagios/etc/htpasswd.users nagiosadmin
chown apache:apache /usr/local/nagios/etc/htpasswd.users
chmod 640 /usr/local/nagios/etc/htpasswd.users
systemctl restart httpd
systemctl enable nagios --now
```

```

Creating sample config files in sample-config/ ...

*** Configuration summary for nagios 4.4.6 2020-04-28 ***:

General Options:
-----
Nagios executable:  nagios
Nagios user/group:  nagios,nagios
Command user/group: nagios,nagios
Event Broker:      yes
Install ${prefix}:  /usr/local/nagios
Install ${includedir}: /usr/local/nagios/include/nagios
Lock file:         /run/nagios.lock
Check result directory: /usr/local/nagios/var/spool/checkresults
Init directory:    /lib/systemd/system
Apache conf.d directory: /etc/httpd/conf.d
Mail program:      /usr/sbin/sendmail
Host OS:           linux-gnu
IOBroker Method:   epoll

Web Interface Options:
-----
HTML URL:  http://localhost/nagios/
CGI URL:   http://localhost/nagios/cgi-bin/
Traceroute (used by WAP):

Review the options above for accuracy.  If they look okay,
type 'make all' to compile the main program and CGIs.

[root@mail nagios-4.4.6]#

```

nagiosadmin

password: 123

Instalamos los plugins:

wget <https://github.com/nagios-plugins/nagios-plugins/releases/download/release-2.4.0/nagios-plugins-2.4.0.tar.gz>

tar xzf nagios-plugins-2.4.0.tar.gz

cd nagios-plugins-2.4.0.tar.gz

./configure

make

make install

Comprobamos su funcionamiento:

N Nagios: 192.168.137.222 x +

← → ↻ 🏠 🔍 192.168.137.222/nagios/ ☆ 📁 ☰

Nagios®

General

Home

Documentation

Current Status

Tactical Overview

Map (Legacy)

Hosts

Services

Host Groups

Summary

Grid

Service Groups

Summary

Grid

Problems

Services (Unhandled)

Hosts (Unhandled)

Network Outages

Quick Search:

Reports

Availability

Trends (Legacy)

Alerts

History

Summary

Histogram (Legacy)

Notifications

Event Log

System

Comments

Downtime

Process Info

Current Network Status

Last Updated: Sat Dec 11 16:14:32 CET 2021

Updated every 90 seconds

Nagios® Core™ 4.4.6 - www.nagios.org

Logged in as nagiosadmin

View History For all hosts

View Notifications For All Hosts

View Host Status Detail For All Hosts

Host Status Totals

Up Down Unreachable Pending

0 1 0 0

All Problems All Types

1 1

Service Status Totals

Ok Warning Unknown Critical Pending

7 1 0 0 0

All Problems All Types

1 8

Service Status Details For All Hosts

Limit Results: 100 ▾

Host	Service	Status	Last Check	Duration	Attempt	Status Information
localhost	Current Load	OK	12-11-2021 16:13:34	0d 0h 10m 58s	1/4	OK - load average: 0.64, 0.32, 0.32
	Current Users	OK	12-11-2021 16:14:12	0d 0h 10m 20s	1/4	USERS OK - 1 users currently logged in
	HTTP	WARNING	12-11-2021 16:09:49	0d 0h 9m 43s	4/4	HTTP WARNING: HTTP/1.1 403 Forbidden - 7907 bytes in 0.002 second response time
	PING	OK	12-11-2021 16:10:27	0d 0h 9m 5s	1/4	PING OK - Packet loss = 0%, RTA = 0.21 ms
	Root Partition	OK	12-11-2021 16:11:04	0d 0h 8m 28s	1/4	DISK OK - free space: / 10398 MiB (56,57% inode=98%):
	SSH	OK	12-11-2021 16:11:42	0d 0h 7m 50s	1/4	SSH OK - OpenSSH_8.0 (protocol 2.0)
	Swap Usage	OK	12-11-2021 16:12:19	0d 0h 7m 13s	1/4	SWAP OK - 97% free (2092 MB out of 2159 MB)
	Total Processes	OK	12-11-2021 16:12:57	0d 0h 6m 35s	1/4	PROCS OK: 74 processes with STATE = RSZDT

Results 1 - 8 of 8 Matching Services

Page Tour

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## FreeBSD (Unix)

### FTP

Creamos 2 nuevos usuarios:

ftp1 | pass:123

ftp2 | pass:123

service ftpd enable

service ftpd start

nano etc/ftpchroot (introducimos el usuario enjaulado):

ftp1

Desde Windows comprobamos que funciona:

(ftp1 enjaulado)

```
PS C:\WINDOWS\system32> ftp 192.168.137.221
Connected to 192.168.137.221.
220 freebsd FTP server (Version 6.00LS) ready.
500 OPTS UTF8 ON: command not understood.
User (192.168.137.221:(none)): ftp1
331 Password required for ftp1.
Password:
230 User ftp1 logged in, access restrictions apply.
ftp> ls
200 PORT command successful.
150 Opening ASCII mode data connection for 'file list'.
.shrc
.profile
.login_conf
.mail_aliases
.cshrc
.mailrc
.login
226 Transfer complete.
ftp: 73 bytes received in 0.00Seconds 73.00Kbytes/sec.
ftp> cd ..
250 CWD command successful.
ftp> ls
200 PORT command successful.
150 Opening ASCII mode data connection for 'file list'.
.shrc
.profile
.login_conf
.mail_aliases
.cshrc
.mailrc
.login
226 Transfer complete.
ftp: 73 bytes received in 0.00Seconds 73.00Kbytes/sec.
ftp> quit
221 Goodbye.
PS C:\WINDOWS\system32>
```

(ftp2 no enjaulado):

Administrator: Windows PowerShell

```
PS C:\WINDOWS\system32> ftp 192.168.137.221
Connected to 192.168.137.221.
220 FreeBSD FTP server (Version 6.00LS) ready.
500 OPTS UTF8 ON: command not understood.
User (192.168.137.221:(none)): ftp2
331 Password required for ftp2.
Password:
230 User ftp2 logged in.
ftp> ls
200 PORT command successful.
150 Opening ASCII mode data connection for 'file list'.
.login
.mailrc
.mail_aliases
.cshrc
.login_conf
.shrc
.profile
226 Transfer complete.
ftp: 73 bytes received in 0.00Seconds 73.00Kbytes/sec.
ftp> cd ..
250 CWD command successful.
ftp> ls
200 PORT command successful.
150 Opening ASCII mode data connection for 'file list'.
ftp2
nik
ftp1
226 Transfer complete.
ftp: 20 bytes received in 0.00Seconds 20.00Kbytes/sec.
ftp>
```

## Openfire + Spark

Instalamos los paquetes:

```
pkg install openfire
```

```
pkg install postgresql11-server postgresql11-client
```

Añadimos las siguientes líneas a /etc/rc.conf:

```
openfire_enable="YES"
```

```
postgresql_enable="YES"
```

Iniciamos el servicio openfire

```
service openfire start
```

```
service openfire status
```

Iniciamos la bd de postgre:

```
/usr/local/etc/rc.d/postgresql initdb
```

```
service postgresql start
```

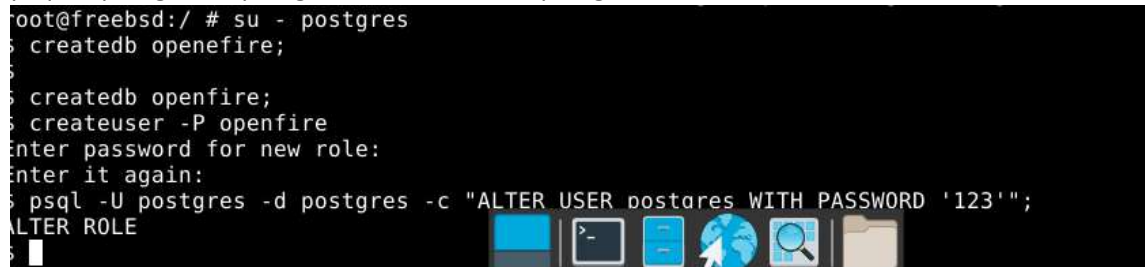
```
su - postgres
```

```
createdb openfire;
```

```
createuser -P openfire
```

```
pass: 123
```

```
psql -U postgres -d postgres -c "ALTER USER postgres WITH PASSWORD '123'";
```

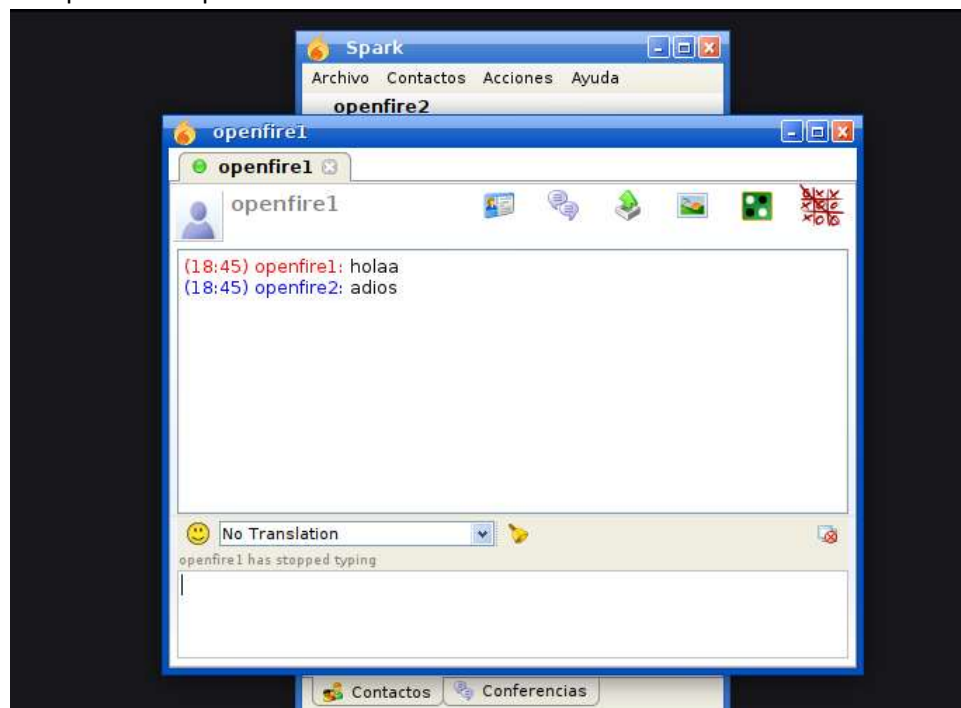


```
root@freebsd:/ # su - postgres
$ createdb openefire;
$
$ createdb openfire;
$ createuser -P openfire
Enter password for new role:
Enter it again:
$ psql -U postgres -d postgres -c "ALTER USER postares WITH PASSWORD '123'";
ALTER ROLE
```

Configuramos el servidor openfire de la misma forma que en Rocky Linux.

Instalamos el cliente Spark como lo haríamos para Rocky Linux.

Comprobamos que funciona:



## Nagios

Se han seguido las instrucciones de esta página:

<https://kifarunix.com/install-nagios-core-on-freebsd-13/>

Comprobamos que funciona:

The screenshot displays the Nagios web interface in a browser window. The interface includes a sidebar with navigation links for General, Current Status, Problems, Reports, and System. The main content area shows the 'Current Network Status' with a last update time of Sat Dec 11 20:15:32 CET 2021. Below this, there are three summary boxes: 'Host Status Totals' (Up: 1, Down: 0, Unreachable: 0, Pending: 0), 'Service Status Totals' (Ok: 8, Warning: 0, Unknown: 0, Critical: 0, Pending: 0), and 'Service Status Details For All Hosts'. The 'Service Status Details' table lists various services for the 'localhost' host, including Current Load, Current Users, HTTP, PING, Root Partition, SSH, Swap Usage, Total, and Processes. All services are currently in an 'OK' state.

**Nagios®**

**General**

- Home
- Documentation

**Current Status**

- Tactical Overview
- Map (Legacy)
- Hosts
- Services
- Host Groups
  - Summary
  - Grid
- Service Groups
  - Summary
  - Grid
- Problems
  - Services (Unhandled)
  - Hosts (Unhandled)
  - Network Outages

Quick Search:

**Reports**

- Availability
- Trends (Legacy)
- Alerts
  - History
  - Summary
  - Histogram (Legacy)
- Notifications
- Event Log

**System**

- Comments

**Current Network Status**

Last Updated: Sat Dec 11 20:15:32 CET 2021  
Updated every 90 seconds  
Nagios® Core™ 4.4.6 - www.nagios.org  
Logged in as nagiosadmin

**Host Status Totals**

Up	Down	Unreachable	Pending
1	0	0	0

**Service Status Totals**

Ok	Warning	Unknown	Critical	Pending
8	0	0	0	0

**Service Status Details For All Hosts**

Limit Results: 100

Host	Service	Status	Last Check	Duration	Attempt	Status Information
localhost	Current Load	OK	12-11-2021 20:14:52	0d 0h 20m 40s	1/4	OK - load average: 0.31, 0.41, 0.78
localhost	Current Users	OK	12-11-2021 20:10:30	0d 0h 20m 2s	1/4	USERS OK - 1 users currently logged in
localhost	HTTP	OK	12-11-2021 20:14:07	0d 0h 1m 25s	1/4	HTTP OK: HTTP/1.1 200 OK - 303 bytes in 0.001 second response time
localhost	PING	OK	12-11-2021 20:11:45	0d 0h 18m 47s	1/4	PING OK - Packet loss = 0%, RTT = 0.25 ms
localhost	Root Partition	OK	12-11-2021 20:12:22	0d 0h 18m 10s	1/4	DISK OK - free space: / 13444 MiB (75.66% inode=100%)
localhost	SSH	OK	12-11-2021 20:13:00	0d 0h 17m 32s	1/4	SSH OK - OpenSSH_7.9 FreeBSD-2020021 (protocol 2.0)
localhost	Swap Usage	OK	12-11-2021 20:13:37	0d 0h 16m 55s	1/4	SWAP OK - 88% free (1800 MB out of 2048 MB)
localhost	Total Processes	OK	12-11-2021 20:14:15	0d 0h 16m 17s	1/4	PROCS OK: 13 processes with STATE = RSZDT

Results 1 - 8 of 8 Matching Services



## Proxy (Squid)

Instalamos el paquete

```
pkg install squid
```

```
squid -f /usr/local/etc/squid/squid.conf -k parse
```

```
nano /etc/rc.conf
```

```
squid_enable="YES"
```

Modificamos el archivo /usr/local/etc/squid/squid.conf y agregamos las siguientes líneas:

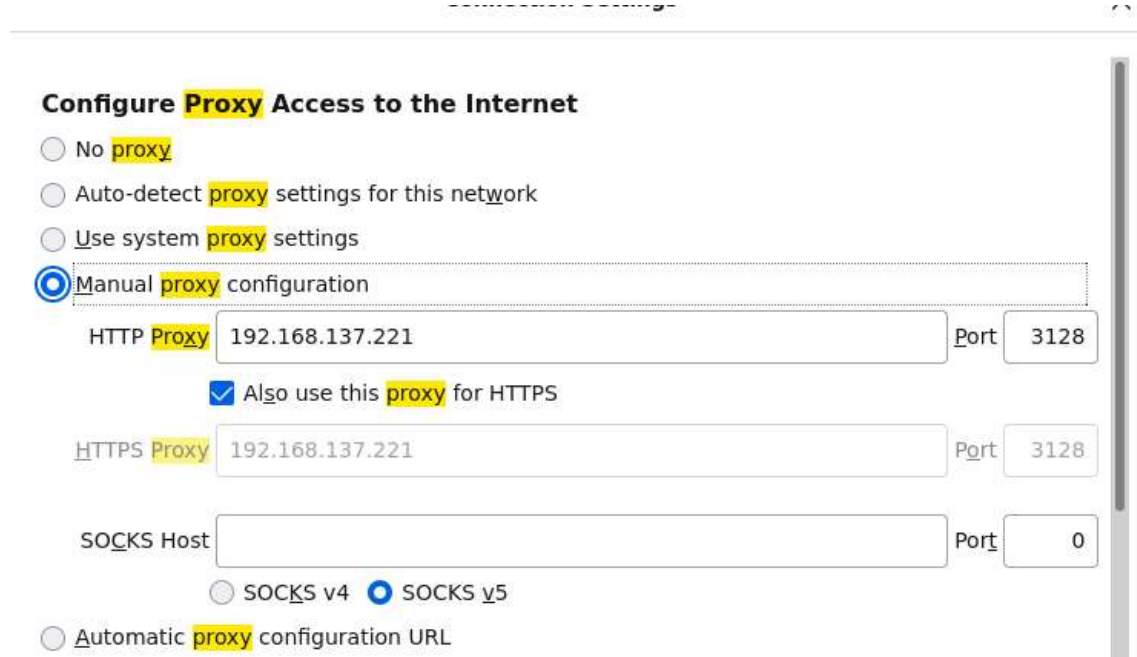
```
acl denegar dstdomain "/usr/local/etc/squid/bad-sites.acl"
```

```
http_access deny denegar
```

Creamos el archivo bad-sites.acl en la carpeta de squid:

```
.facebook.com
```

En nuestro navegador activamos el proxy manual:



**Configure Proxy Access to the Internet**

☐ No proxy

☐ Auto-detect proxy settings for this network

☐ Use system proxy settings

☒ Manual proxy configuration

HTTP Proxy: 192.168.137.221 Port: 3128

☒ Also use this proxy for HTTPS

HTTPS Proxy: 192.168.137.221 Port: 3128

SOCKS Host: Port: 0

☐ SOCKS v4 ☒ SOCKS v5

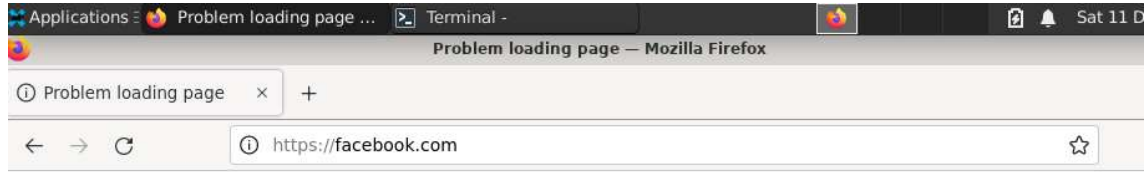
☐ Automatic proxy configuration URL

Reiniciamos el servicio

```
service squid restart
```



Comprobamos que funciona:



## The proxy server is refusing connections

An error occurred during a connection to facebook.com.

- Check the proxy settings to make sure that they are correct.
- Contact your network administrator to make sure the proxy server is working.

[Try Again](#)

## Raidz

Agregamos 4 unidades de almacenamiento como lo hemos hecho para Rocky Linux.

Luego creamos la unidad raidz:

```
root@freebsd:/ # zpool create datastore raidz ada1 ada2 ada3 ada4
root@freebsd:/ # zpool status
  pool: datastore
  state: ONLINE
  config:

    NAME        STATE        READ  WRITE CKSUM
    datastore   ONLINE             0     0     0
      raidz1-0  ONLINE             0     0     0
        ada1    ONLINE             0     0     0
        ada2    ONLINE             0     0     0
        ada3    ONLINE             0     0     0
        ada4    ONLINE             0     0     0

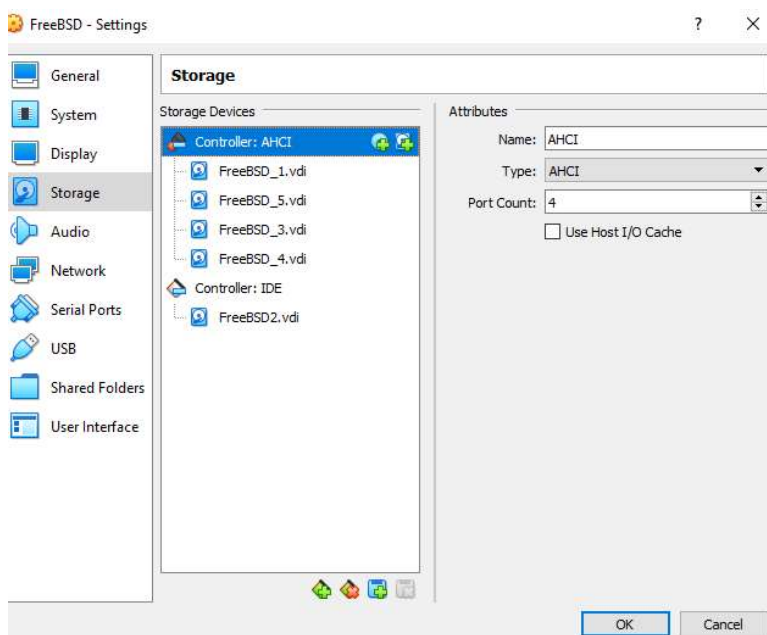
errors: No known data errors

  pool: zroot
  state: ONLINE
  config:

    NAME        STATE        READ  WRITE CKSUM
    zroot       ONLINE             0     0     0
      ada0p3    ONLINE             0     0     0

errors: No known data errors
root@freebsd:/ # zpool set autoreplace=on datastore
root@freebsd:/ # zfs list
NAME                                USED  AVAIL  REFER  MOUNTPOINT
datastore                          575K  2.60G   140K   /datastore
zroot                              5.77G  13.1G    96K   /zroot
zroot/R00T                         4.24G  13.1G    96K   none
zroot/R00T/default                 4.24G  13.1G   4.24G   /
zroot/tmp                          272K  13.1G   272K   /tmp
zroot/usr                          1.53G  13.1G    96K   /usr
zroot/usr/home                     127M  13.1G   127M   /usr/home
zroot/usr/ports                     740M  13.1G   740M   /usr/ports
```

Quitamos un disco:



Vemos que hubo un fallo:

```

root@freebsd:/ # zpool status
pool: datastore
state: ONLINE
status: One or more devices could not be used because the label is missing or
invalid. Sufficient replicas exist for the pool to continue
functioning in a degraded state.
action: Replace the device using 'zpool replace'.
see: https://openzfs.github.io/openzfs-docs/msg/ZFS-8000-4J
scan: scrub repaired 0B in 00:00:02 with 0 errors on Sat Dec 11 21:22:35 2021
config:

```

NAME	STATE	READ	WRITE	CKSUM	
datastore	ONLINE	0	0	0	
raidz1-0	ONLINE	0	0	0	
ada1	ONLINE	0	0	0	
10145388250511927974	UNAVAIL	0	0	0	was /dev/ada2
ada3	ONLINE	0	0	0	
ada4	ONLINE	0	0	0	

errors: No known data errors

```

pool: zroot
state: ONLINE
config:

```

NAME	STATE	READ	WRITE	CKSUM
zroot	ONLINE	0	0	0
ada0p3	ONLINE	0	0	0

errors: No known data errors

Lo arreglamos de la siguiente forma:

```

root@freebsd:/datastore # zpool replace datastore ada2
root@freebsd:/datastore # zpool status
pool: datastore
state: ONLINE
scan: resilvered 584K in 00:00:02 with 0 errors on Sat Dec 11 21:36:21 2021
config:

```

NAME	STATE	READ	WRITE	CKSUM
datastore	ONLINE	0	0	0
raidz1-0	ONLINE	0	0	0
ada1	ONLINE	0	0	0
ada2	ONLINE	0	0	0
ada3	ONLINE	0	0	0
ada4	ONLINE	0	0	0

errors: No known data errors

```

pool: zroot
state: ONLINE
config:

```

NAME	STATE	READ	WRITE	CKSUM
zroot	ONLINE	0	0	0
ada0p3	ONLINE	0	0	0

errors: No known data errors

```

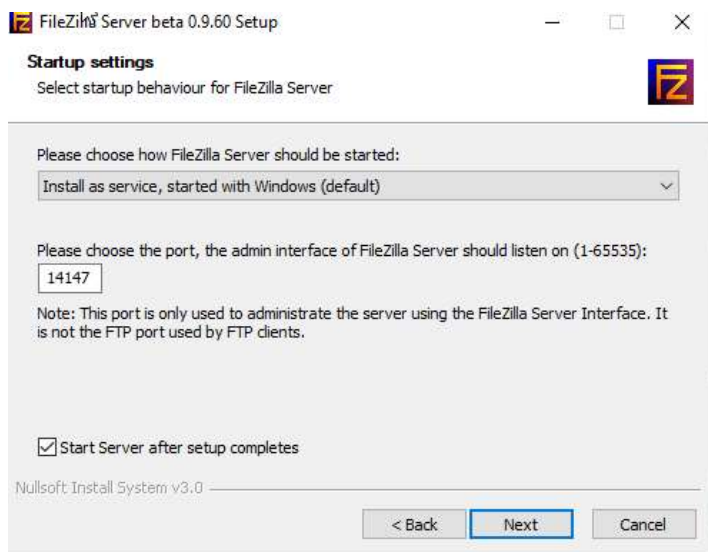
root@freebsd:/datastore # █

```

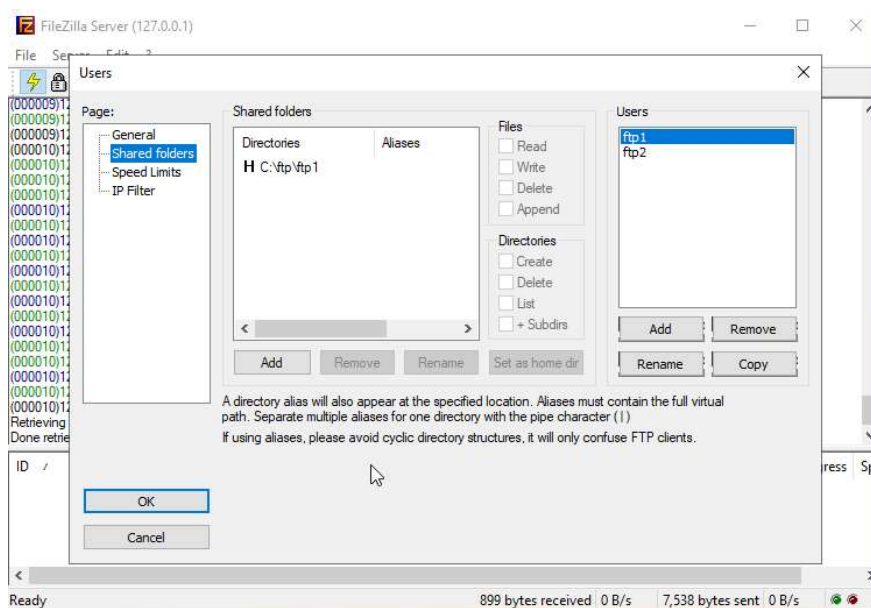
## Windows Server 2022

### FTP

Instalamos FileZilla Server 0.9.60:



En editar -> usuarios añadiremos 2 usuarios, ftp1 (enjaulado en una carpeta dentro del directorio C:\ftp\ftp1) y otro desenjaulado (con directorio C:\)



Comprobamos que funciona:

ftp1 (enjaulado):

```

PS C:\WINDOWS\system32> ftp 192.168.137.223
Connected to 192.168.137.223.
220-FileZilla Server 0.9.60 beta
220-written by Tim Kosse (tim.kosse@filezilla-project.org)
220 Please visit https://filezilla-project.org/
202 UTF8 mode is always enabled. No need to send this command.
User (192.168.137.223:(none)): ftp1
331 Password required for ftp1
Password:
230 Logged on
ftp> dir
200 Port command successful
150 Opening data channel for directory listing of "/"
drwxr-xr-x 1 ftp ftp          0 Dec 11 13:44 1
drwxr-xr-x 1 ftp ftp          0 Dec 11 13:51 hola
226 Successfully transferred "/"
ftp: 110 bytes received in 0.00Seconds 55.00Kbytes/sec.
ftp> cd ..
250 CWD successful. "/" is current directory.
ftp> dir
200 Port command successful
150 Opening data channel for directory listing of "/"
drwxr-xr-x 1 ftp ftp          0 Dec 11 13:44 1
drwxr-xr-x 1 ftp ftp          0 Dec 11 13:51 hola
226 Successfully transferred "/"
ftp: 110 bytes received in 0.00Seconds 55.00Kbytes/sec.
ftp> quit
221 Goodbye
PS C:\WINDOWS\system32>

```

ftp2 (desenjaulado):

```

Administrator: Windows PowerShell
PS C:\WINDOWS\system32> ftp 192.168.137.223
Connected to 192.168.137.223.
220-FileZilla Server 0.9.60 beta
220-written by Tim Kosse (tim.kosse@filezilla-project.org)
220 Please visit https://filezilla-project.org/
202 UTF8 mode is always enabled. No need to send this command.
User (192.168.137.223:(none)): ftp2
331 Password required for ftp2
Password:
230 Logged on
ftp> dir
200 Port command successful
150 Opening data channel for directory listing of "/"
drwxr-xr-x 1 ftp ftp          0 Oct 02  2021 $Recycle.Bin
drwxr-xr-x 1 ftp ftp          0 Nov 13 13:40 $WinREAgent
drwxr-xr-x 1 ftp ftp          0 Nov 14 07:11 ._nfs
-rw-r--r-- 1 ftp ftp          0 Nov 13 15:57 C
drwxr-xr-x 1 ftp ftp          0 Oct 02  2021 Documents and Settings
-rw-r--r-- 1 ftp ftp      12288 Nov 14 06:21 DumpStack.log.tmp
drwxr-xr-x 1 ftp ftp          0 Nov 17 08:48 ftp
-rw-r--r-- 1 ftp ftp        574 Nov 13 17:25 id_rsa.pub
-rw-r--r-- 1 ftp ftp    1342177280 Nov 14 06:21 pagefile.sys
drwxr-xr-x 1 ftp ftp          0 May 08  2021 PerfLogs
drwxr-xr-x 1 ftp ftp          0 Nov 13 18:31 Program Files
drwxr-xr-x 1 ftp ftp          0 Nov 17 08:51 Program Files (x86)
drwxr-xr-x 1 ftp ftp          0 Nov 13 18:31 ProgramData
drwxr-xr-x 1 ftp ftp          0 Oct 02  2021 Recovery
drwxr-xr-x 1 ftp ftp          0 Nov 14 07:16 Shares
-rw-r--r-- 1 ftp ftp        574 Nov 13 17:27 sshkeysnik
drwxr-xr-x 1 ftp ftp          0 Dec 11 13:49 System Volume Information
drwxr-xr-x 1 ftp ftp          0 Nov 13 17:24 Users
drwxr-xr-x 1 ftp ftp          0 Nov 14 13:53 Windows
-rw-r--r-- 1 ftp ftp        398 Nov 13 15:52 ~
226 Successfully transferred "/"
ftp: 1229 bytes received in 0.02Seconds 61.45Kbytes/sec.
ftp>

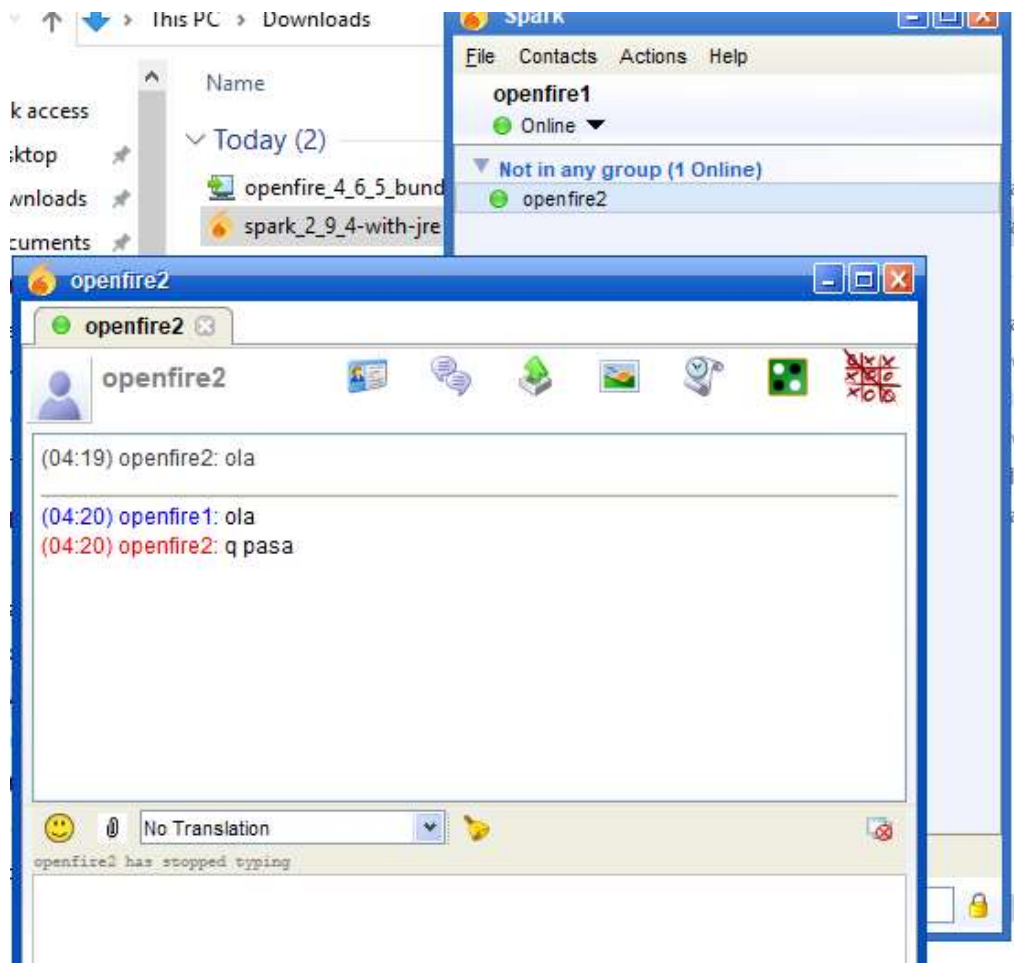
```

## Openfire

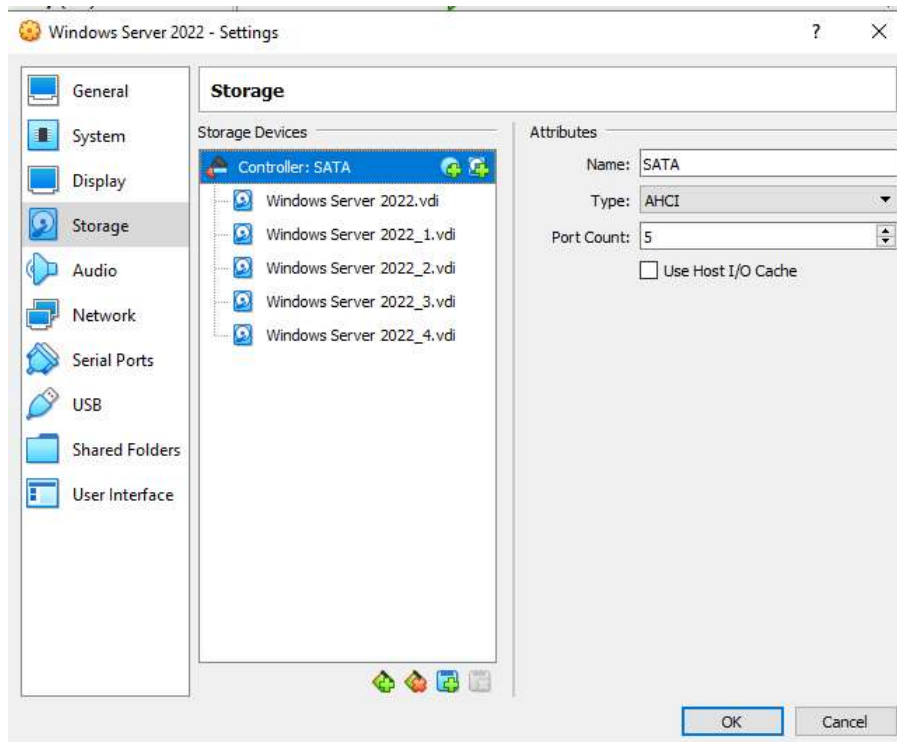
Se instala openfire con JRE incluido, y spark: <https://www.igniterealtime.org/downloads/>

Una vez instalado se abrirá la pagina localhost:9090, los pasos de instalación son iguales que para Rocky Linux y FreeBSD.

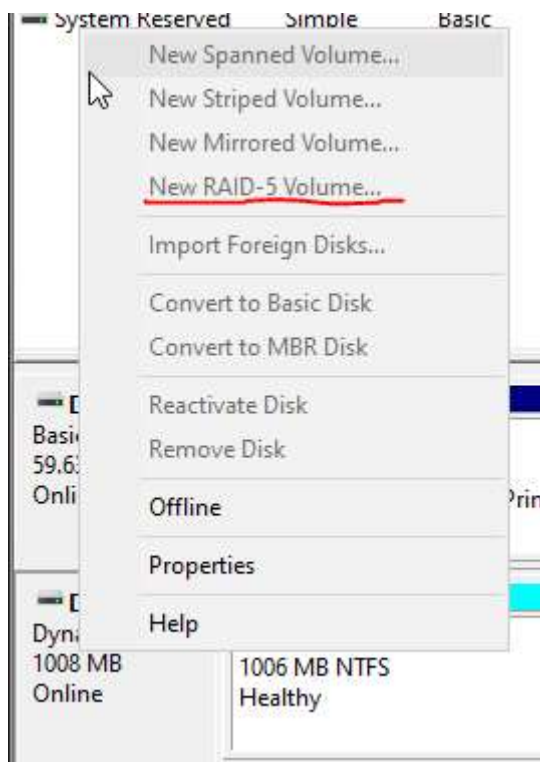
Instalamos Spark, entramos con nuestros usuarios, y los añadimos a contactos, luego comprobamos que funciona:



## Raid 5:



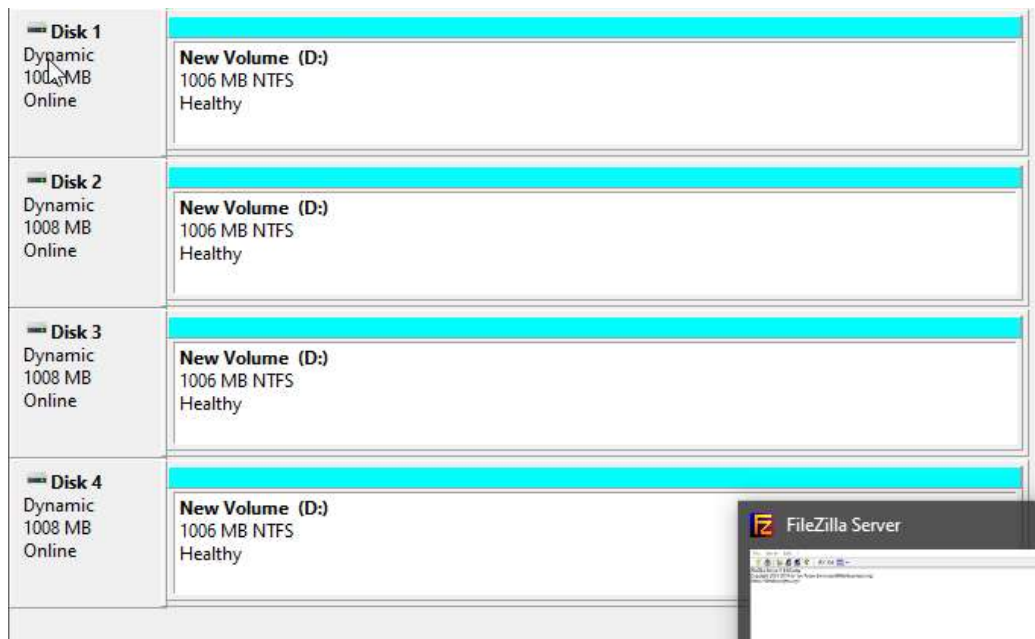
Abrimos Disk Management, seleccionamos uno de los discos que hemos añadido:



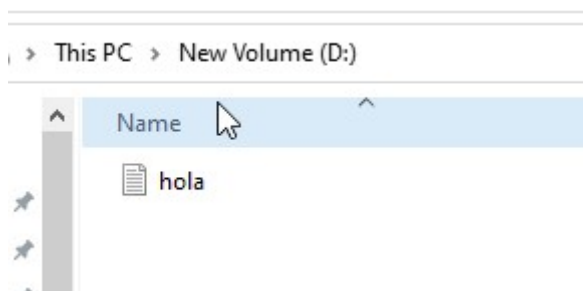
Añadimos los demás discos y seguimos los pasos de instalación y formateo.

Una vez terminado debería verse así:

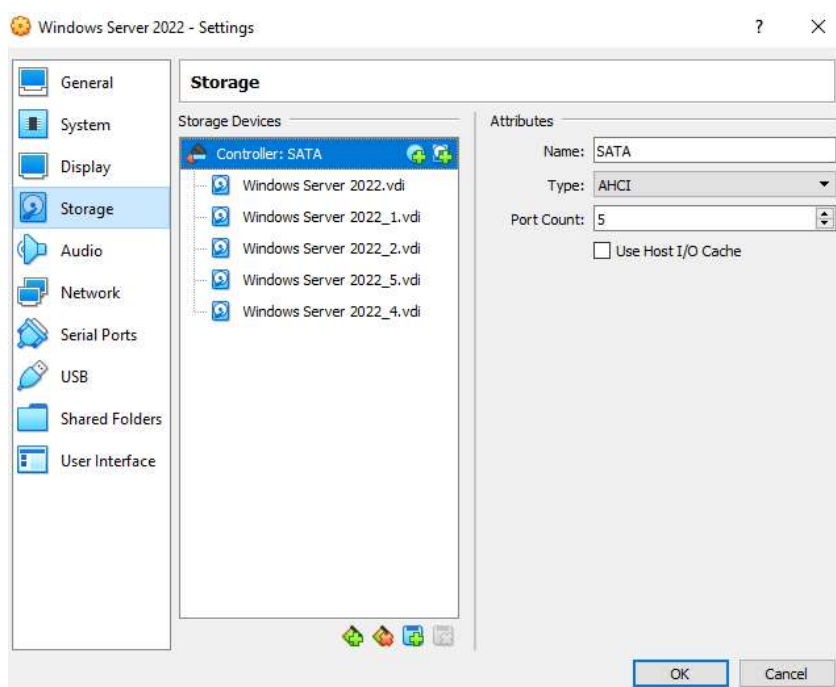




Añadimos un archivo de prueba al disco:

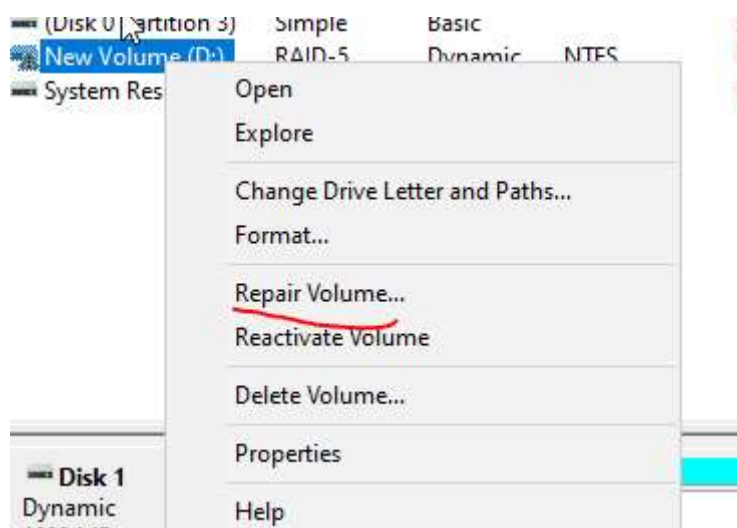


Quitamos uno de los discos desde VB, y añadimos uno nuevo:



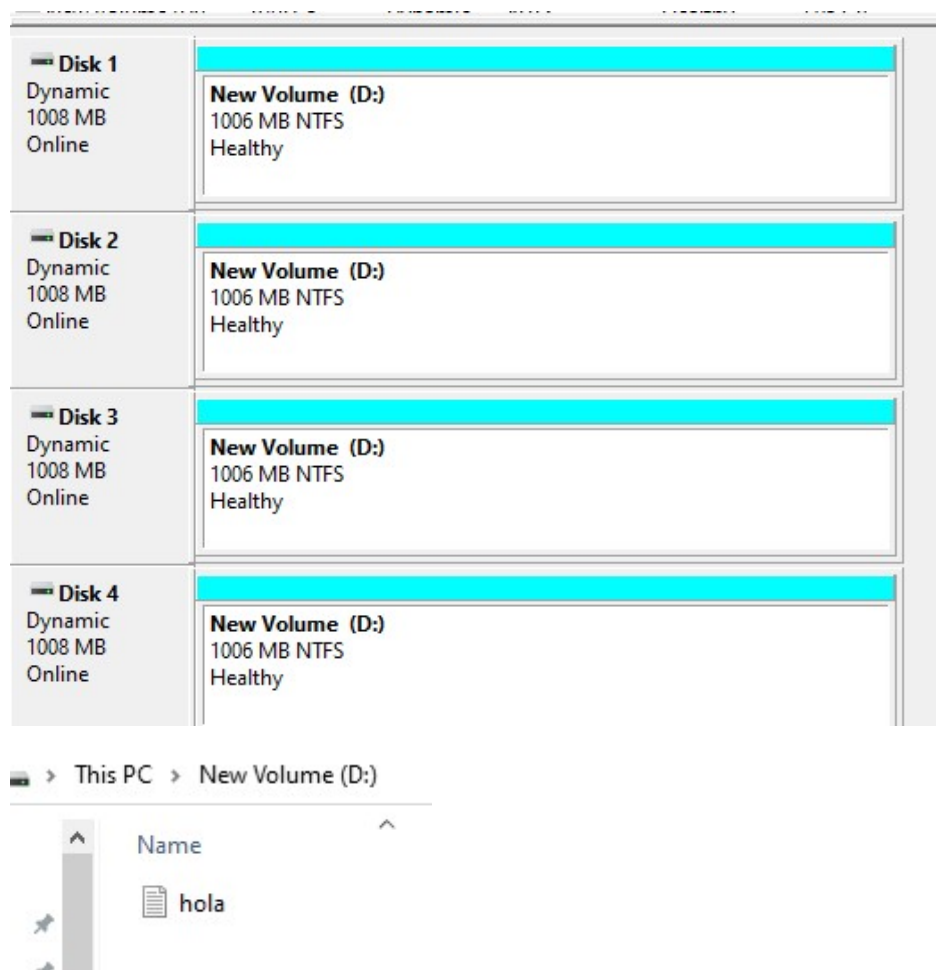
Primero convertiremos nuestro nuevo disco a dinámico, luego reparamos el volumen D:





Y elegimos el nuevo disco.

Comprobamos que esta reparado:

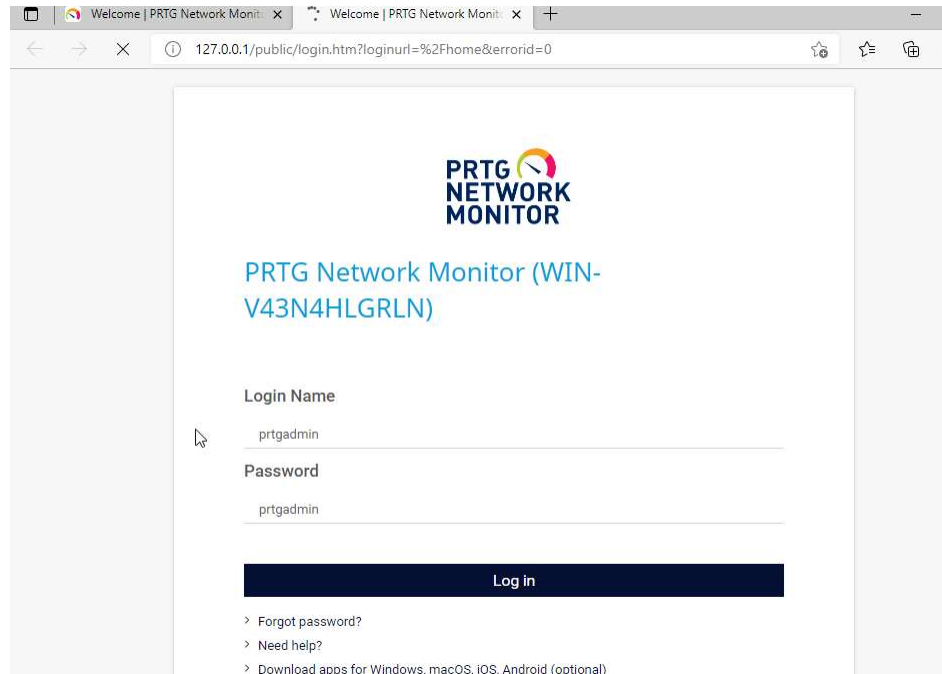


## PRTG (monitor de red)

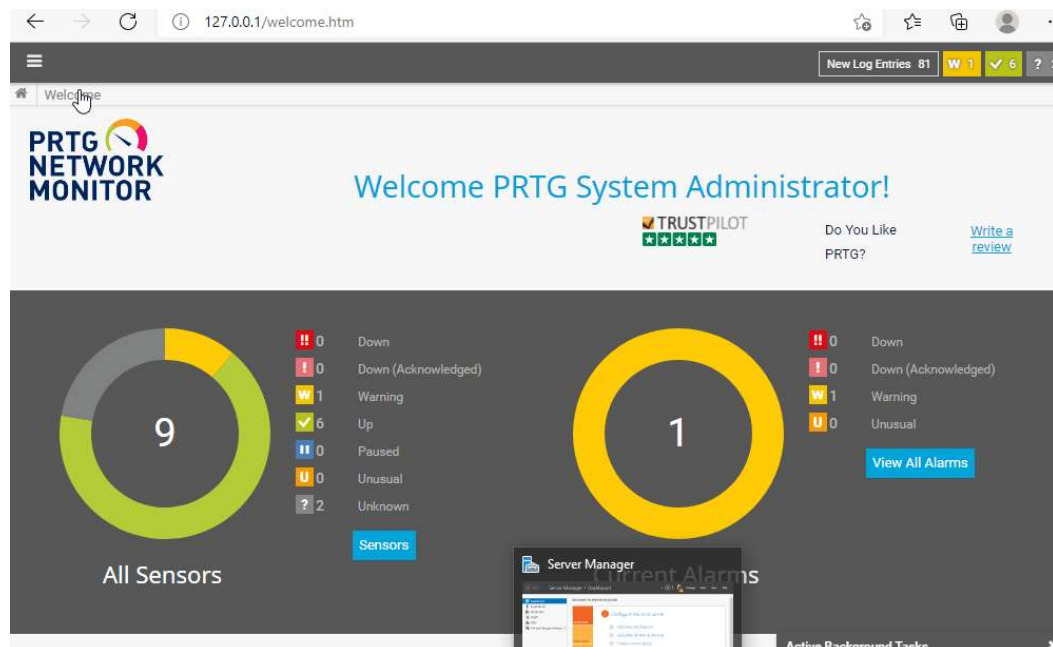
Instalamos el servicio desde la pagina oficial:

[https://www.paessler.com/prtg?gclid=CjwKCAiAtdGNBhAmEiwAWxGcUi\\_weH8qL0dGDOPz2laPIRh6c\\_Clq0kn7O27eaiH01jAxIMlxjobAxC-nAQAvD\\_BwE](https://www.paessler.com/prtg?gclid=CjwKCAiAtdGNBhAmEiwAWxGcUi_weH8qL0dGDOPz2laPIRh6c_Clq0kn7O27eaiH01jAxIMlxjobAxC-nAQAvD_BwE)

Una vez instalado entramos al servicio:

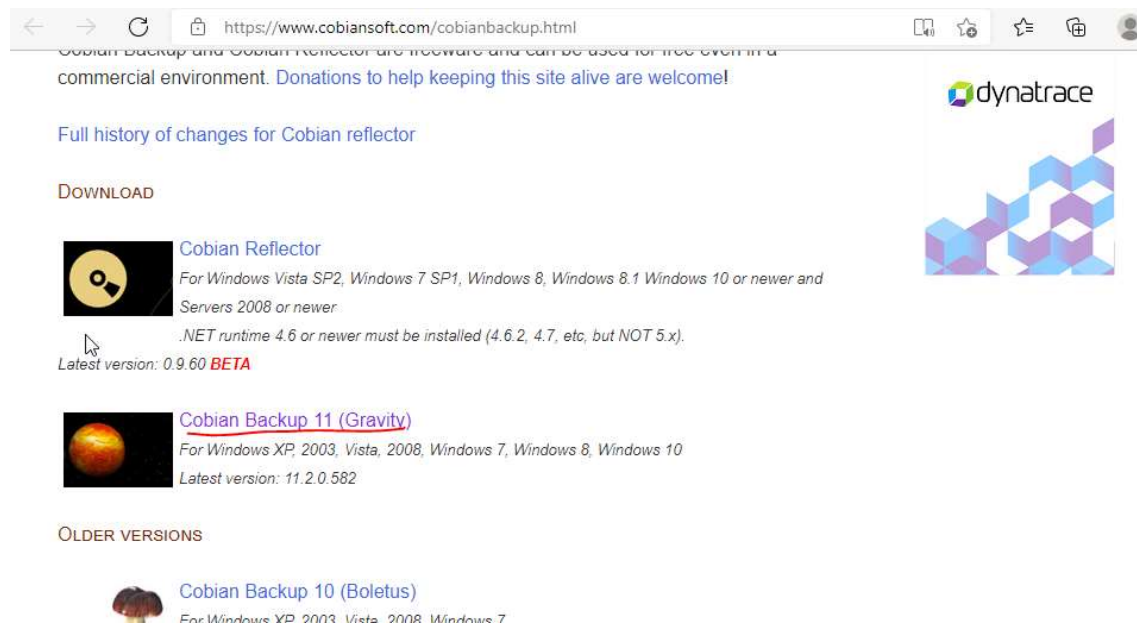


Comprobamos que funciona:



## Backup (Cobian)

Descargamos Cobian Backup 11: <https://cobiansoft.com>



The screenshot shows the Cobian Backup website. At the top, there's a navigation bar with a home icon, a search icon, and a user profile icon. Below the navigation bar, there's a banner for Cobian Backup and Cobian Reflector, stating they are freeware and can be used for free even in a commercial environment. A link for donations is provided. To the right, there's a Dynatrace logo. The main content area has a 'Full history of changes for Cobian reflector' link. Below that, there's a 'DOWNLOAD' section. It features two download options: 'Cobian Reflector' and 'Cobian Backup 11 (Gravity)'. Each option includes a small icon, the product name, supported operating systems, and the latest version. 'Cobian Reflector' is version 0.9.60 BETA, and 'Cobian Backup 11 (Gravity)' is version 11.2.0.582. Below the download section, there's an 'OLDER VERSIONS' section, which currently shows 'Cobian Backup 10 (Boletus)' for Windows XP, Vista, 2008, and Windows 7.

Cobian Backup and Cobian Reflector are freeware and can be used for free even in a commercial environment. Donations to help keeping this site alive are welcome!

[Full history of changes for Cobian reflector](#)

**DOWNLOAD**

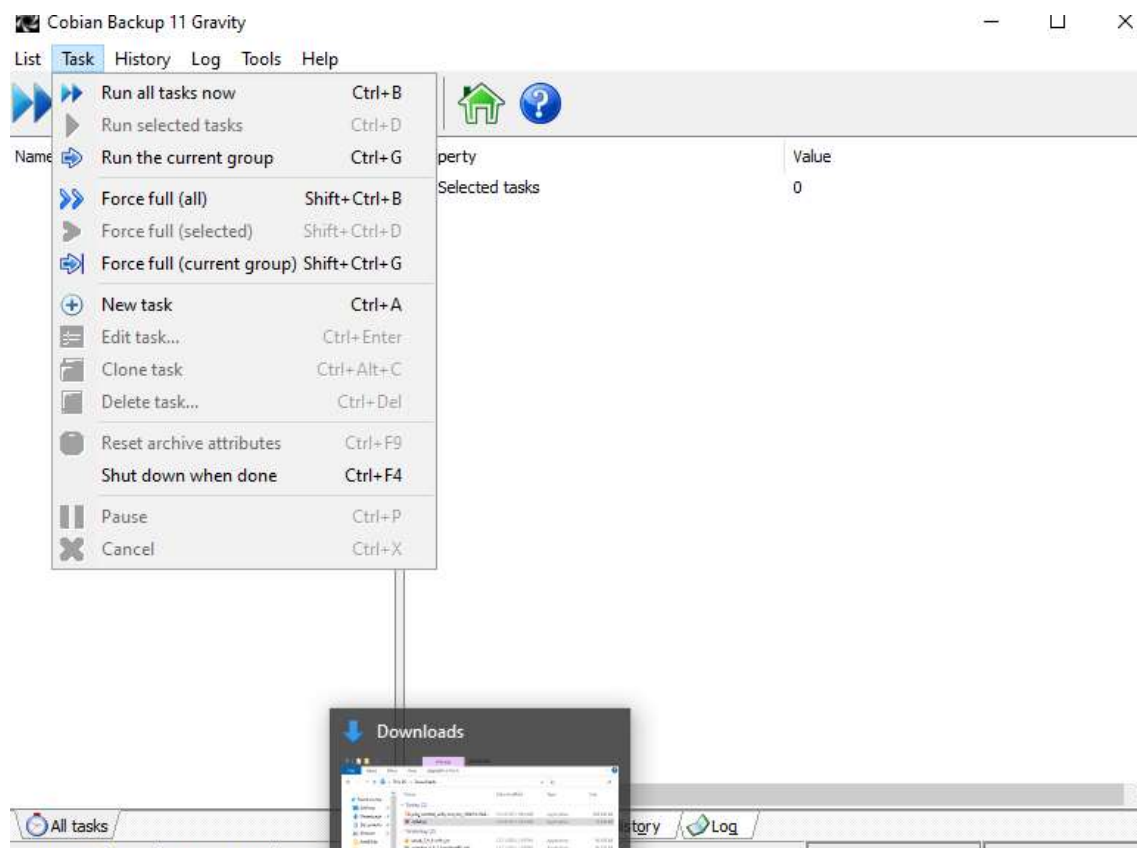
**Cobian Reflector**  
For Windows Vista SP2, Windows 7 SP1, Windows 8, Windows 8.1 Windows 10 or newer and Servers 2008 or newer.  
.NET runtime 4.6 or newer must be installed (4.6.2, 4.7, etc, but NOT 5.x).  
Latest version: 0.9.60 **BETA**

**Cobian Backup 11 (Gravity)**  
For Windows XP, 2003, Vista, 2008, Windows 7, Windows 8, Windows 10  
Latest version: 11.2.0.582

**OLDER VERSIONS**

**Cobian Backup 10 (Boletus)**  
For Windows XP, 2003, Vista, 2008, Windows 7

Una vez instalado, creamos una nueva tarea:



The screenshot shows the Cobian Backup 11 Gravity application interface. The main window has a menu bar with 'List', 'Task', 'History', 'Log', 'Tools', and 'Help'. The 'Task' menu is open, showing various options like 'Run all tasks now', 'Run selected tasks', 'Run the current group', 'Force full (all)', 'Force full (selected)', 'Force full (current group)', 'New task', 'Edit task...', 'Clone task', 'Delete task...', 'Reset archive attributes', 'Shut down when done', 'Pause', and 'Cancel'. Each option has a keyboard shortcut. The main area of the application shows a table with columns 'Name' and 'Value'. The 'Name' column contains 'Selected tasks' and the 'Value' column contains '0'. Below the main window, there's a 'Downloads' window showing a list of files. At the bottom, there's a 'Log' window showing a list of tasks.

**Cobian Backup 11 Gravity**

Menu: List Task History Log Tools Help

Task menu options:

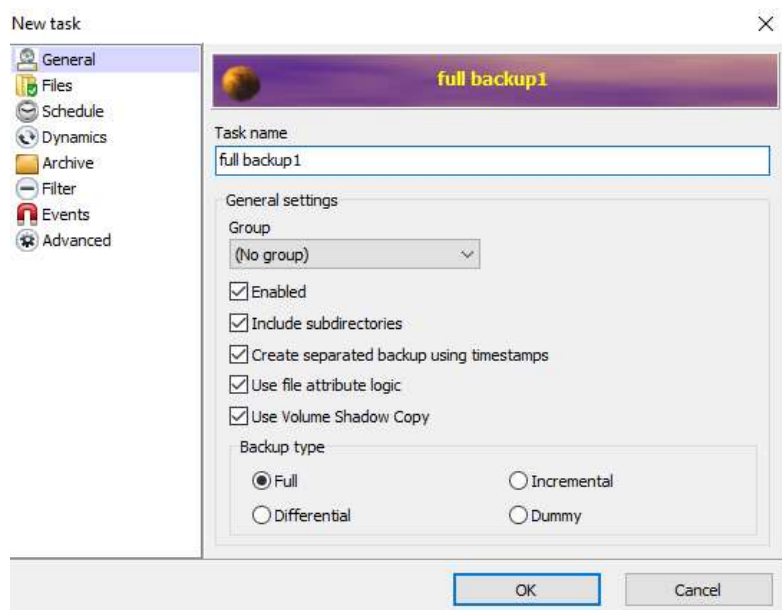
- Run all tasks now (Ctrl+B)
- Run selected tasks (Ctrl+D)
- Run the current group (Ctrl+G)
- Force full (all) (Shift+Ctrl+B)
- Force full (selected) (Shift+Ctrl+D)
- Force full (current group) (Shift+Ctrl+G)
- New task (Ctrl+A)
- Edit task... (Ctrl+Enter)
- Clone task (Ctrl+Alt+C)
- Delete task... (Ctrl+Del)
- Reset archive attributes (Ctrl+F9)
- Shut down when done (Ctrl+F4)
- Pause (Ctrl+P)
- Cancel (Ctrl+X)

Main area table:

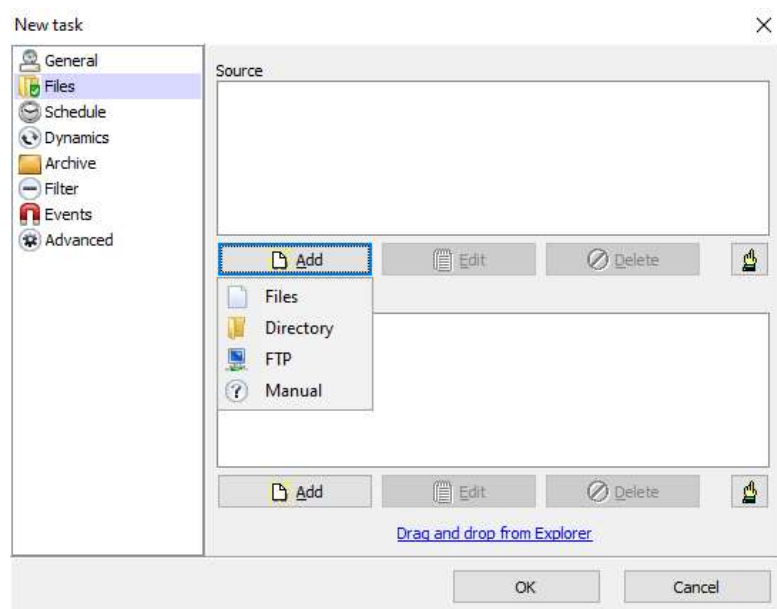
Name	Value
Selected tasks	0

Downloads window:

Log window:



Añadimos el directorio que deseamos hacer backup, y el destino de la copia:



En la carpeta backup1 comprobamos que se ha realizado con éxito:

