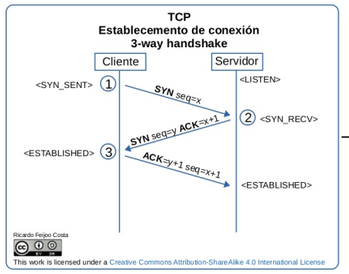
Cheat-Sheet: FTP

Clientes FTP
GUI → FileZilla Client (Modo Pasivo)
Comandos → ftp
GNU/Linux → ftp (Modo Pasivo)
MS Windows → ftp (Modo Activo)



FTP - Establecemento de conexión → 21 (Server TCP Port)

No.	Time	Source	Destination	Protocol	Length	Info
5	0.006427614	10.0.2.15	ftp.ujaen.es	TCP	74	39090 → 21 [SYN] Seq=0 Win=65535 Len
6	0.038841648	ftp.ujaen.es	10.0.2.15	TCP	60	21 → 39090 [SYN, ACK] Seq=0 Ack=1 Wi
7	0.038913556	10.0.2.15	ftp.ujaen.es	TCP	54	39090 → 21 [ACK] Seq=1 Ack=1 Win=655
8	0.083003327	ftp.ujaen.es	10.0.2.15	FTP	106	Response: 220 Servidor FTP anonimo d
9	0.083108496	10.0.2.15	ftp.ujaen.es	TCP	54	39090 → 21 [ACK] Seq=1 Ack=53 Win=65
14	5.969206024	10.0.2.15	ftp.ujaen.es	FTP	70	Request: USER anonymous
15	5.969965755	ftp.ujaen.es	10.0.2.15	TCP	60	21 → 39090 [ACK] Seq=53 Ack=17 Win=6
16	6.002095887	ftp.ujaen.es	10.0.2.15	FTP	129	Response: 331 Anonymous login ok, se

Debian Handbook - FTP | **Debian Wiki - FTP**
Wiki FileZilla | **FileZilla Client** | **FileZilla Server**
Kali - ftp | **Kali - sftp** | **Kali - tftp-hpa**

```
┌──(kali㉿kali)-[~]
└─$ ftp ftp.ujaen.es
Connected to ftp.ujaen.es.
220 Servidor FTP anonimo de la Universidad de Jaen
Name (ftp.ujaen.es:kali): anonymous
331 Anonymous login ok, send your complete email address as your password
Password:
230 Acceso permitido para anonymous
Remote system type is UNIX.
Using binary mode to transfer files.
ftp> ls
229 Entering Extended Passive Mode (|||36136|)
150 Opening BINARY mode data connection for file list
drwxr-xr-x   6 ftp      ftp           152 Nov  3  2011 pub
-rw-r--r--   1 ftp      ftp          1877 Apr 26  2007 welcome.msg
226 Transfer complete
ftp> lcd /tmp
Local directory now: /tmp
ftp> get welcome.msg
local: welcome.msg remote: welcome.msg
229 Entering Extended Passive Mode (|||28263|)
150 Opening BINARY mode data connection for welcome.msg (1877 bytes)
100% |**************************************|  1877       12.69 MiB/s    00:00 ETA
226 Transfer complete
1877 bytes received in 00:00 (56.88 KiB/s)
ftp> !
┌──(kali㉿kali)-[/tmp]
└─$ ls -l welcome.msg
-rw-r--r-- 1 kali kali 1877 Apr 26  2007 welcome.msg

┌──(kali㉿kali)-[/tmp]
└─$ exit
ftp> quit
221 Goodbye.

┌──(kali㉿kali)-[~]
└─$
```

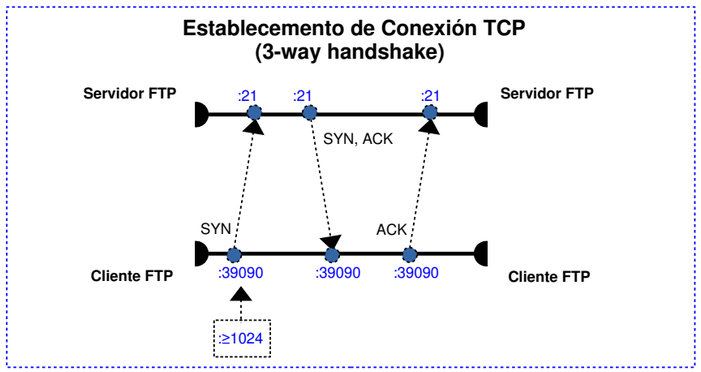
Modo Pasivo→ Inicio conexión de datos dende o cliente ftp
→ TCP Port cliente ftp ≥ 1024
→ TCP Port servidor ftp ≥ 1024

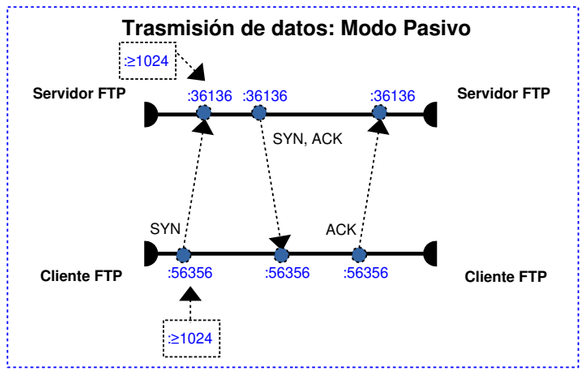
GNU/Linux → command ftp

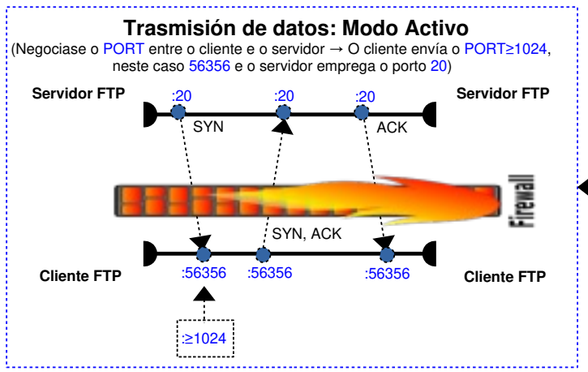
WireShark

No.	Time	Source	Destination	Protocol	Length	Info
39	10.631906463	10.0.2.15	ftp.ujaen.es	TCP	74	56356 → 36136 [SYN] Seq=0 Win=65535 Len=0 MSS=14
40	10.665672297	ftp.ujaen.es	10.0.2.15	TCP	60	36136 → 56356 [SYN, ACK] Seq=0 Ack=1 Win=65535 L
41	10.665786034	10.0.2.15	ftp.ujaen.es	TCP	54	56356 → 36136 [ACK] Seq=1 Ack=1 Win=65535 Len=0
45	10.701196316	ftp.ujaen.es	10.0.2.15	FTP-DATA	182	FTP Data: 128 bytes (EPASV) (LIST)
46	10.701196871	ftp.ujaen.es	10.0.2.15	TCP	60	36136 → 56356 [FIN, ACK] Seq=129 Ack=1 Win=65535
47	10.701282132	10.0.2.15	ftp.ujaen.es	TCP	54	56356 → 36136 [ACK] Seq=1 Ack=129 Win=65535 Len=0
48	10.701745304	10.0.2.15	ftp.ujaen.es	TCP	54	56356 → 36136 [FIN, ACK] Seq=1 Ack=130 Win=65535
49	10.702298799	ftp.ujaen.es	10.0.2.15	TCP	60	36136 → 56356 [ACK] Seq=130 Ack=2 Win=65535 Len=0

```
Frame 45: 182 bytes on wire (1456 bits), 182 bytes captured (1456 bits) on interface eth0, id 0
Ethernet II, Src: 10.0.2.2 (52:54:00:12:35:02), Dst: 10.0.2.15 (08:00:27:e7:3b:62)
Internet Protocol Version 4, Src: ftp.ujaen.es (150.214.170.29), Dst: 10.0.2.15 (10.0.2.15)
Transmission Control Protocol, Src Port: 36136, Dst Port: 56356, Seq: 1, Ack: 1, Len: 128
FTP Data (128 bytes data)
[Setup frame: 38]
[Setup method: EPASV]
[Command: LIST]
Command frame: 42
[Current working directory: ]
Line-based text data (2 lines)
    drwxr-xr-x   6 ftp      ftp           152 Nov  3  2011 pub\r\n
    -rw-r--r--   1 ftp      ftp          1877 Apr 26  2007 welcome.msg\r\n
```







Problema
Atravesar o firewall, router, etc do cliente. Débense permitir conexións entrantes hacia o cliente cando o cliente non é o host que solicitou a conexión.

Filezilla-Server pode empregar outro porto≥1024 e non o porto 20 (neste caso o 33979)

Link

No.	Time	Source	Destination	Protocol	Length	Info
15	8.150443686	10.10.10.11	10.10.10.10	FTP	79	Request: PORT 10,10,10,11,194,21
16	8.151170803	10.10.10.10	10.10.10.11	FTP	84	Response: 200 PORT command successful.
17	8.178901345	10.10.10.11	10.10.10.10	FTP	70	Request: RETR proba.txt
18	8.179760217	10.10.10.10	10.10.10.11	FTP	83	Response: 150 Starting data transfer.
19	8.179998595	10.10.10.10	10.10.10.11	TCP	74	33979 → 49685 [SYN] Seq=0 Win=64240 Le
20	8.180707829	10.10.10.11	10.10.10.10	TCP	74	49685 → 33979 [SYN, ACK] Seq=0 Ack=1 W
21	8.180752853	10.10.10.10	10.10.10.11	TCP	66	33979 → 49685 [ACK] Seq=1 Ack=1 Win=64
22	8.180973949	10.10.10.10	10.10.10.11	TCP	73	33979 → 49685 [PSH, ACK] Seq=1 Ack=1 W
23	8.181133026	10.10.10.10	10.10.10.11	TCP	66	33979 → 49685 [FIN, ACK] Seq=8 Ack=1 W
24	8.182418944	10.10.10.11	10.10.10.10	TCP	66	49685 → 33979 [ACK] Seq=1 Ack=9 Win=20
25	8.182533259	10.10.10.10	10.10.10.11	FTP	80	Response: 226 Operation successful

```
Frame 15: 79 bytes on wire (632 bits), 79 bytes captured (632 bits) on interface eth0, id 0
Ethernet II, Src: PcsCompu_dc:7f:49 (08:00:27:dc:7f:49), Dst: PcsCompu_e7:3b:62 (08:00:27:e7:3b:62)
Internet Protocol Version 4, Src: 10.10.10.11, Dst: 10.10.10.10
Transmission Control Protocol, Src Port: 49684, Dst Port: 21, Seq: 37, Ack: 199, Len: 25
File Transfer Protocol (FTP)
  PORT 10,10,10,11,194,21\r\n
      Request command: PORT
      Request arg: 10,10,10,11,194,21
      Active IP address: 10.10.10.11
      Active port: 49685
  [Current working directory: ]
```

Servidor FTP(filezilla-server)
eth0:
IP estática: 10.10.10.10/8
Gateway: 10.10.10.1
DNS: 1.1.1.1, 8.8.8.8
Paquete servidor FTP:
FileZilla_Server*.deb
Instalación:
dpkg -i FileZilla_Server*.deb
Portos TCP:
21 → Establecemento conexión
14148 → GUI Administración
Ficheiros de configuración:
/opt/filezilla-server/etc
Por defecto ningún usuario ten acceso ao servidor. Tampouco o usuario ***anonymous***
Binarios:
/opt/filezilla-server/bin
filezilla-server-gui & → Panel administración
Ficheiros logs:
Panel administración
Panel de administración:
Users: sistema (posúen perfil de usuario)
Users: virtuais (non posúen conta no sistema, pero poden enlazarse a un perfil de usuario)

Configuración de rede en tempo real:
```
# pkill NetworkManager \
 && ip addr add 10.10.10.10/8 dev eth0 \
 && ip route add default via 10.10.10.1 dev eth0 \
 && echo -e 'nameserver 1.1.1.1\nnameserver 8.8.8.8' > /etc/resolv.conf
```

Comprobar a configuración de rede:
```
# ip addr show eth0 \
 && ip route \
 && cat /etc/resolv.conf
```

Paquete debian: FileZilla_Server*.deb - Instalación
```
# dpkg -i FileZilla_Server*.deb
```

debian → Instalar FileZilla-Server

Ver accións posibles do servidor filezilla-server:
```
# systemctl show filezilla-server | grep -i can #Premer Enter
CanStart=yes →Pódese utilizar a acción `systemctl start` para iniciar o servizo.
CanStop=yes →Pódese utilizar a acción `systemctl stop` para deter o servizo.
CanReload=yes →Pódese utilizar a acción `systemctl reload` para recargar o servizo.
CanIsolate=no → Non se pode utilizar a acción `systemctl isolate` para illar o servizo.
CanFreeze=yes →Pódese utilizar a acción `systemctl freeze` para conxelar o servizo.
```

Arranque do servidor:
```
# systemctl start filezilla-server #Premer Enter
```

Comprobar estado servidor:
```
# systemctl status filezilla-server #Premer Enter
```

Configuración servidor en `/opt/filezilla-server/etc` **a través do Panel de administración:** `filezilla-server-gui`

Exemplo1
Panel de administración → Acceso e configuración por defecto

Ficheiro binario
/opt/filezilla-server/bin/filezilla-server-gui

```
$ cd /opt/filezilla-server/bin
$ ./filezilla-server-gui &
Connect to Server...
 Host: localhost
 Port: 14148
 Password: ********
```

Usuario ftp
`anonymous` sen acceso

```
$ ftp localhost
Trying [::1]:21 ...
Connected to localhost.
220-FileZilla Server 1.8.0
220 Please visit https://filezilla-project.org/
Name (localhost:kali): anonymous
331 Please, specify the password.
Password:
530 Login incorrect.
ftp: Login failed
ftp> user kali
331 Please, specify the password.
Password:
530 Login incorrect.
Login failed.
ftp> quit
221 Goodbye.
$
```

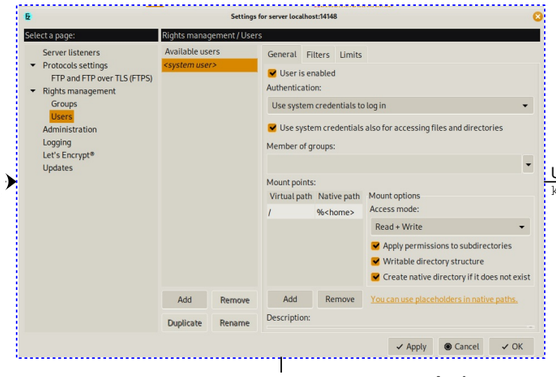
Configuración
Sección Configure

```
Server → Configure...
 Server Listeners:
   AddressPortProtocol
   0.0.0.021Explicit FTP over TLS and insecure plain FTP
   ::21Explicit FTP over TLS and insecure plain FTP

Por defecto, en IPv4(0.0.0.0) e IPv6(::) calquera NIC do servidor está en modo “listen” para o servidor FTP

 Users...
 <system user> → Disable
```

Usuario de sistema
`kali` sen acceso

Exemplo2
Panel de administración → Usuarios de sistema

Configuración
Sección Configure



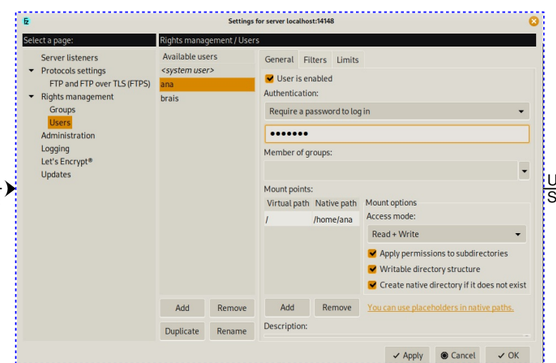
Usuario de sistema
`kali` con acceso

```
$ ftp localhost
Trying [::1]:21 ...
Connected to localhost.
220-FileZilla Server 1.8.0
220 Please visit https://filezilla-project.org/
Name (localhost:kali): kali
331 Please, specify the password.
Password:
230 Login successful.
Remote system type is UNIX.
Using binary mode to transfer files.
ftp> quit
221 Goodbye.
$
```

Apply
Aplicar configuración

Exemplo3
Panel de administración → Usuarios virtuais (non existentes no sistema)

Configuración
Sección Configure

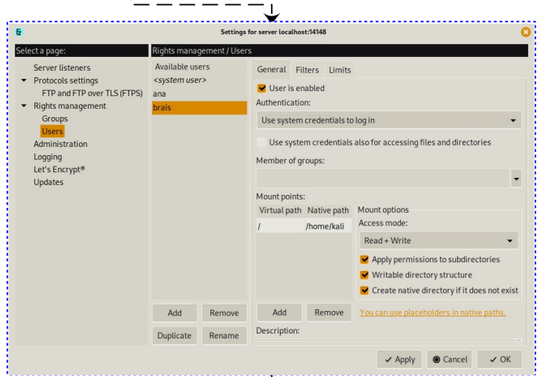


Usuario virtual `ana`
Sen conta de sistema

```
$ ftp localhost
Trying [::1]:21 ...
Connected to localhost.
220-FileZilla Server 1.8.0
220 Please visit https://filezilla-project.org/
Name (localhost:kali): ana
331 Please, specify the password.
Password:
230 Login successful.
Remote system type is UNIX.
Using binary mode to transfer files.
ftp> quit
221 Goodbye.
$
```

Apply
Aplicar configuración

Exemplo4
Panel de administración → Usuarios virtuais con `Native Path` existentes no sistema



Similar ao **Exemplo3**, pero cambiar:
→ `Native Path`
→ `Authentication`

Apply
Aplicar configuración

Permisos ugo
```
$ sudo chgrp -R ftp /home/kali
$ sudo find /home/kali -type f -exec chmod 664 {} \;
$ sudo find /home/kali -type d -exec chmod 775 {} \;
```

Usuario virtual `brais`
Con acceso ao perfil do usuario `kali` (`/home/kali`)

```
$ ftp localhost
Trying [::1]:21 ...
Connected to localhost.
220-FileZilla Server 1.8.0
220 Please visit https://filezilla-project.org/
Name (localhost:kali): brais
331 Please, specify the password.
Password:
230 Login successful.
Remote system type is UNIX.
Using binary mode to transfer files.
ftp> quit
221 Goodbye.
$
```

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