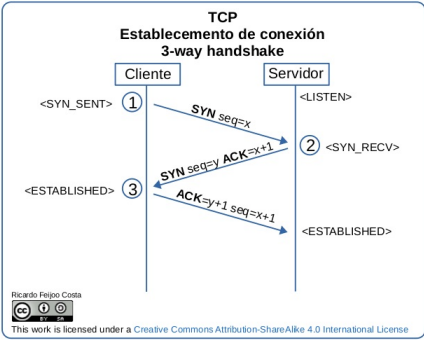# Cheat-Sheet: FTP

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

TCP
Establecemiento de conexión
3-way handshake

Cliente   Servidor

<SYN_SENT> ① <LISTEN>
        SYN seq=x
<SYN_SENT>   ② <SYN_RECV>
        SYN seq=y ACK=x+1
<ESTABLISHED> ③
        ACK=y+1 seq=x+1
                <ESTABLISHED>

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FTP - Establecemiento 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

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

```
┌──(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)-[~]
└─$ ▮
```

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 Le
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=65
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]
    [Current working directory:]
    Command frame: 42
▼ 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