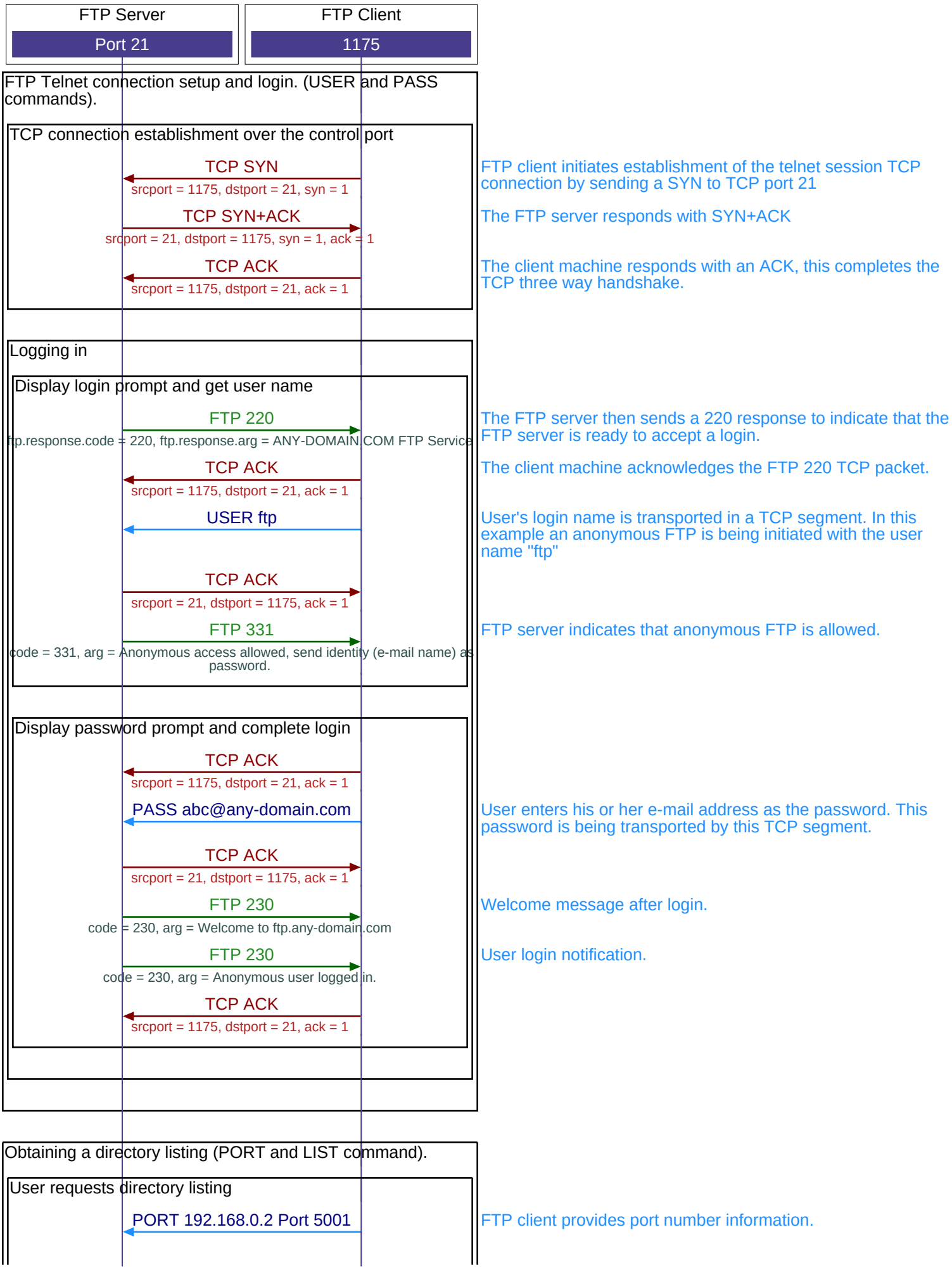
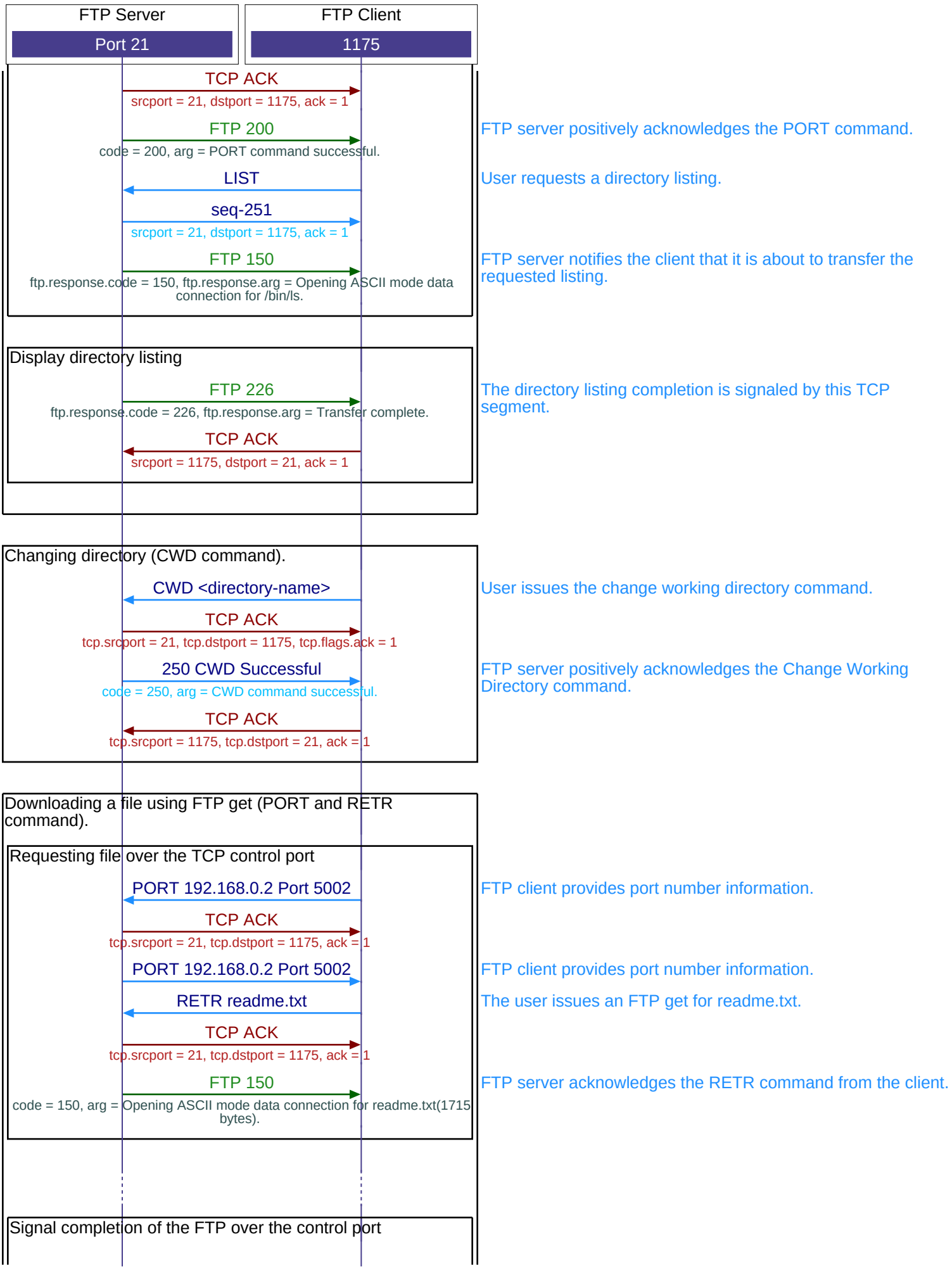
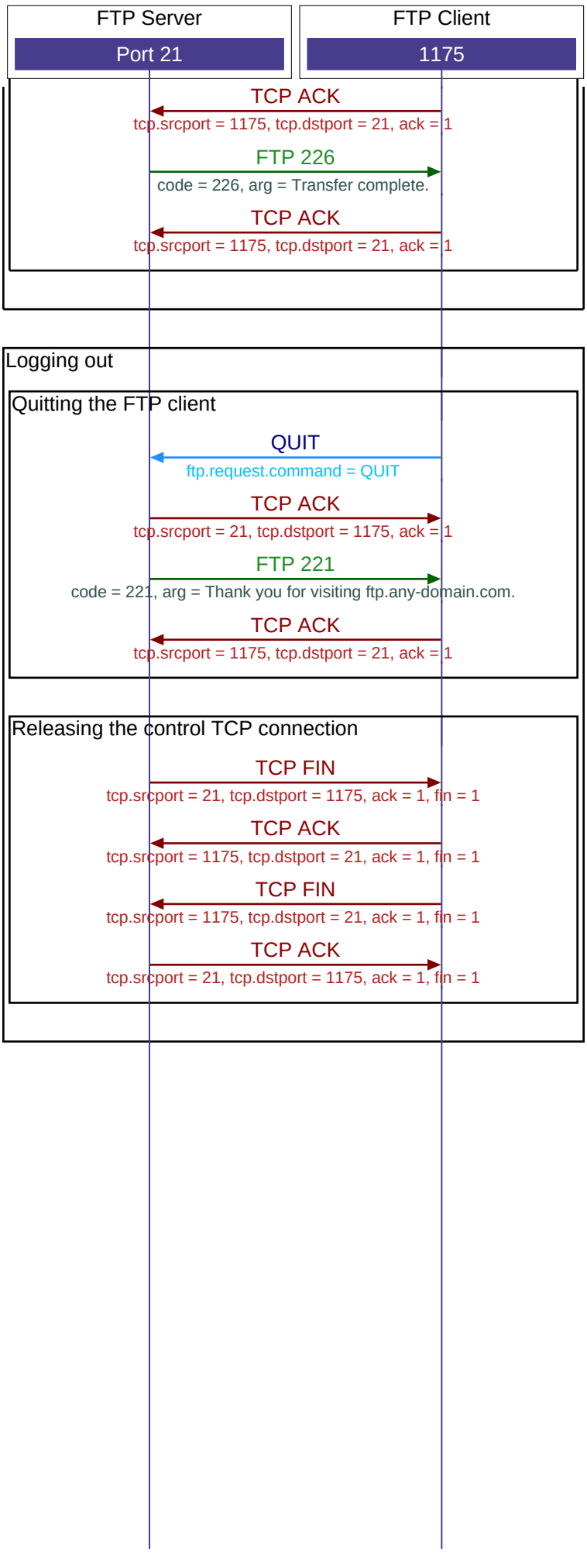

FTP Server
Port 21
FTP Client
1175
FTP Telnet connection setup and login. (USER and PASS commands).
TCP connection establishment over the control port
TCP SYN
srcport = 1175, dstport = 21, syn = 1
FTP client initiates establishment of the telnet session TCP connection by sending a SYN to TCP port 21
TCP SYN+ACK
srcport = 21, dstport = 1175, syn = 1, ack = 1
The FTP server responds with SYN+ACK
TCP ACK
srcport = 1175, dstport = 21, ack = 1
The client machine responds with an ACK, this completes the TCP three way handshake.
Logging in
Display login prompt and get user name
FTP 220
ftp.response.code = 220, ftp.response.arg = ANY-DOMAIN.COM FTP Service
The FTP server then sends a 220 response to indicate that the FTP server is ready to accept a login.
TCP ACK
srcport = 1175, dstport = 21, ack = 1
The client machine acknowledges the FTP 220 TCP packet.
USER ftp
User's login name is transported in a TCP segment. In this example an anonymous FTP is being initiated with the user name "ftp"
TCP ACK
srcport = 21, dstport = 1175, ack = 1
FTP 331
code = 331, arg = Anonymous access allowed, send identity (e-mail name) as password.
FTP server indicates that anonymous FTP is allowed.
Display password prompt and complete login
TCP ACK
srcport = 1175, dstport = 21, ack = 1
PASS abc@any-domain.com
User enters his or her e-mail address as the password. This password is being transported by this TCP segment.
TCP ACK
srcport = 21, dstport = 1175, ack = 1
FTP 230
code = 230, arg = Welcome to ftp.any-domain.com
Welcome message after login.
FTP 230
code = 230, arg = Anonymous user logged in.
User login notification.
TCP ACK
srcport = 1175, dstport = 21, ack = 1
Obtaining a directory listing (PORT and LIST command).
User requests directory listing
PORT 192.168.0.2 Port 5001
FTP client provides port number information.


FTP Server
Port 21
FTP Client
1175
TCP ACK
srcport = 21, dstport = 1175, ack = 1
FTP 200
code = 200, arg = PORT command successful.
FTP server positively acknowledges the PORT command.
LIST
User requests a directory listing.
seq-251
srcport = 21, dstport = 1175, ack = 1
FTP 150
ftp.response.code = 150, ftp.response.arg = Opening ASCII mode data connection for /bin/ls.
FTP server notifies the client that it is about to transfer the requested listing.
Display directory listing
FTP 226
ftp.response.code = 226, ftp.response.arg = Transfer complete.
The directory listing completion is signaled by this TCP segment.
TCP ACK
srcport = 1175, dstport = 21, ack = 1
Changing directory (CWD command).
CWD <directory-name>
User issues the change working directory command.
TCP ACK
tcp.srcport = 21, tcp.dstport = 1175, tcp.flags.ack = 1
250 CWD Successful
code = 250, arg = CWD command successful.
FTP server positively acknowledges the Change Working Directory command.
TCP ACK
tcp.srcport = 1175, tcp.dstport = 21, ack = 1
Downloading a file using FTP get (PORT and RETR command).
Requesting file over the TCP control port
PORT 192.168.0.2 Port 5002
FTP client provides port number information.
TCP ACK
tcp.srcport = 21, tcp.dstport = 1175, ack = 1
PORT 192.168.0.2 Port 5002
FTP client provides port number information.
RETR readme.txt
The user issues an FTP get for readme.txt.
TCP ACK
tcp.srcport = 21, tcp.dstport = 1175, ack = 1
FTP 150
code = 150, arg = Opening ASCII mode data connection for readme.txt(1715 bytes).
FTP server acknowledges the RETR command from the client.
Signal completion of the FTP over the control port



Signal to the client that the FTP transfer has been completed.

User initiates a "bye" on the FTP client console. This is translated to the quit command.

Control TCP connection release initiated.

Control TCP connection release is completed.