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# LABORATORIO 8

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ITIT

13104

# TCP de ida

PDU Information at Device: RouterJorgeULSA

OSI Model Inbound PDU Details Outbound PDU Details

At Device: RouterJorgeULSA  
Source: JorgeULSA10.5.8.2  
Destination: 10.8.8.2

## In Layers

Layer7
Layer6
Layer5
Layer4
Layer 3: IP Header Src. IP: 10.5.8.2, Dest. IP: 10.8.8.2
Layer 2: Ethernet II Header 00E0.B057.8718 >> 000C.CFDA.5B01
Layer 1: Port GigabitEthernet0/0

## Out Layers

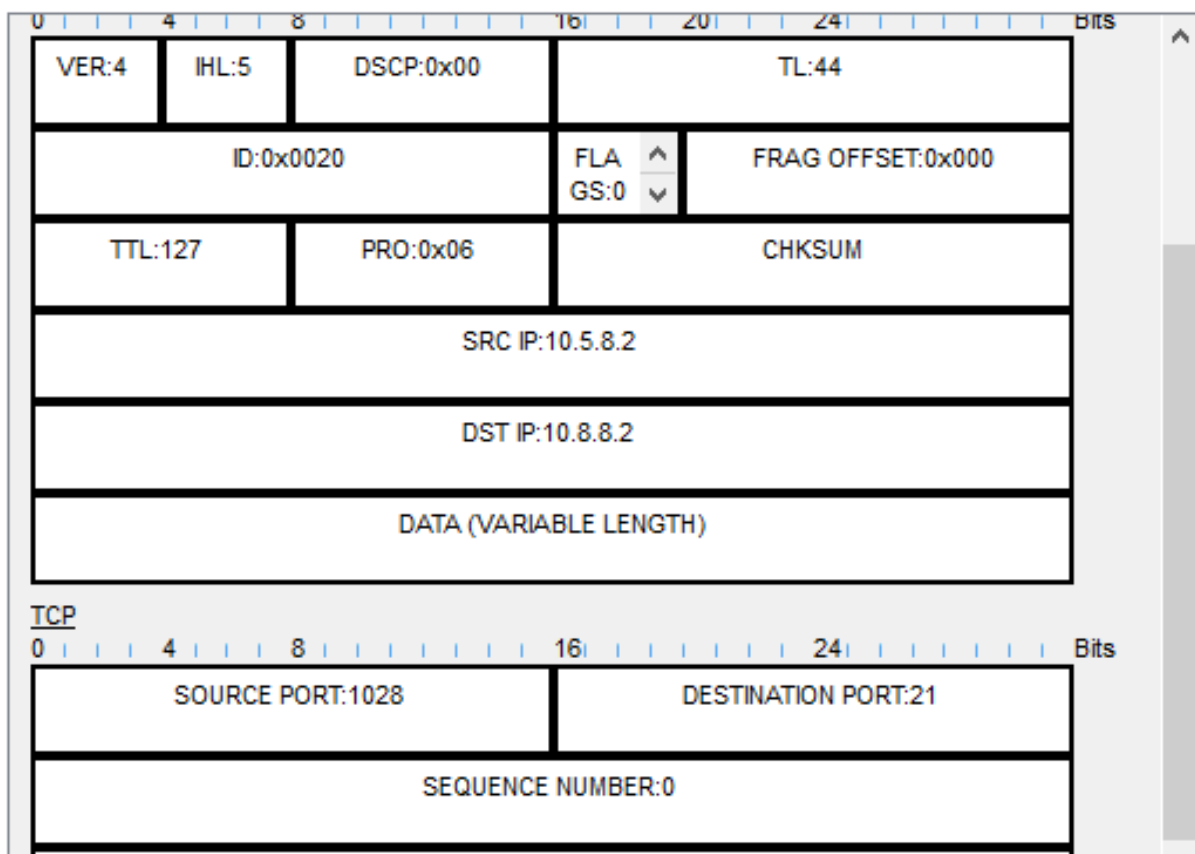
Layer7
Layer6
Layer5
Layer4
Layer 3: IP Header Src. IP: 10.5.8.2, Dest. IP: 10.8.8.2
Layer 2: Ethernet II Header 000C.CFDA.5B02 >> 0001.96B2.EB02
Layer 1: Port(s): GigabitEthernet0/1

1. The device looks up the destination IP address in the CEF table.

PDU Information at Device: RouterJorgeULSA

OSI Model Inbound PDU Details Outbound PDU Details

## PDU Formats



# TCP de vuelta

## PDU Information at Device: Firewall

OSI Model Inbound PDU Details Outbound PDU Details

At Device: Firewall  
Source: JorgeULSA10.5.8.2  
Destination: 10.8.8.2

### In Layers

Layer7
Layer6
Layer5
Layer4
Layer 3: IP Header Src. IP: 10.8.8.2, Dest. IP: 10.5.8.2
Layer 2: Ethernet II Header 00D0.FF23.6B02 >> 0001.96B2.EB03
Layer 1: Port GigabitEthernet1/3

### Out Layers

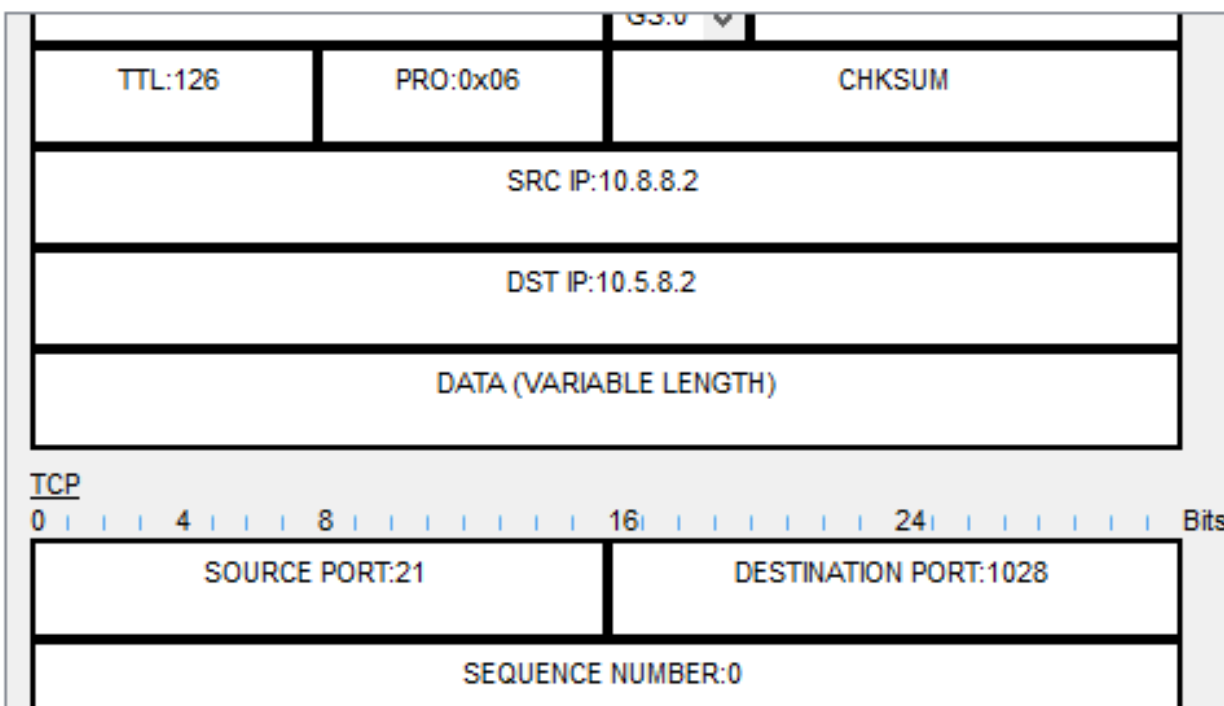
Layer7
Layer6
Layer5
Layer4
Layer 3: IP Header Src. IP: 10.8.8.2, Dest. IP: 10.5.8.2
Layer 2: Ethernet II Header 0001.96B2.EB02 >> 000C.CFDA.5B02
Layer 1: Port(s): GigabitEthernet1/2

1. The receiving port has an inbound traffic access-list with an ID of DMZ. The device checks the packet against the access-list.
2. The packet matches the criteria of the following statement: permit tcp host 10.8.8.2 eq ftp host 10.5.8.2. The packet is permitted.
3. The device looks up the destination IP address in the CEF table.

## PDU Information at Device: Firewall

OSI Model Inbound PDU Details Outbound PDU Details

### PDU Formats



# TCP explicacion

En la PC 10.5.8.2 y en el servidor FTP se indica que, en la capa 3 del modelo OSI, las direcciones IP de destino coinciden con la IP de ambos dispositivos, lo que permite que los paquetes de datos TCP sean procesados correctamente.

# FTP de ida

## PDU Information at Device: Firewall

### PDU Information at Device: Firewall

OSI Model Inbound PDU Details Outbound PDU Details

At Device: Firewall  
Source: JorgeULSA10.5.8.2  
Destination: 10.8.8.2

#### In Layers

Layer7  
Layer6  
Layer5  
Layer4  
Layer 3: IP Header Src. IP: 10.5.8.2, Dest. IP: 10.8.8.2  
Layer 2: Ethernet II Header 000C.CFDA.5B02 >> 0001.96B2.EB02  
Layer 1: Port GigabitEthernet1/2

#### Out Layers

Layer7  
Layer6  
Layer5  
Layer4  
Layer 3: IP Header Src. IP: 10.5.8.2, Dest. IP: 10.8.8.2  
Layer 2: Ethernet II Header 0001.96B2.EB03 >> 00D0.FF23.6B02  
Layer 1: Port(s): GigabitEthernet1/3

1. The receiving port has an inbound traffic access-list with an ID of ULSA. The device checks the packet against the access-list.
2. The device looks up the destination IP address in the CEF table.

### OSI Model Inbound PDU Details

### Outbound PDU Details

#### PDU Formats

ID:0x0023		FLA GS:0	FRAG OFFSET:0x000
TTL:126	PRO:0x06	CHKSUM	
SRC IP:10.5.8.2			
DST IP:10.8.8.2			
DATA (VARIABLE LENGTH)			

#### TCP

0 4 8 16 24 Bits

SOURCE PORT:1028	DESTINATION PORT:21
SEQUENCE NUMBER:1	
ACKNOWLEDGEMENT NUMBER:53	

### PDU Information at Device: RouterJorgeULSA

OSI Model    Inbound PDU Details    Outbound PDU Details

SRC ADDR:000 1.96B2.EB02		TYPE E:0x		DATA (VARIABLE LENGTH)		TOS:0x00000000	
<div>IP</div> <div>0 4 8 16 20 24 Bits</div>							
VER:4		IHL:5		DSCP:0x00		TL:74	
ID:0x0015				FLA GS:0		FRAG OFFSET:0x000	
TTL:125		PRO:0x06		CHKSUM			
SRC IP:10.8.8.2							
DST IP:10.5.8.2							
DATA (VARIABLE LENGTH)							

# FTP explicacion

Una vez finalizada la comunicación mediante el protocolo TCP, se inicia el protocolo FTP, en el cual se validan datos como el nombre de usuario y la contraseña antes de establecerse la conexión entre la PC y el servidor. Ambos protocolos, TCP y FTP, utilizan el puerto 21.

# Bloqueo de firewall

## PDU Information at Device: Firewall

OSI Model    Inbound PDU Details

At Device: Firewall  
Source: JorgeULSA10.5.8.2  
Destination: 10.8.8.2

### In Layers

Layer7
Layer6
Layer5
Layer4
Layer 3: IP Header Src. IP: 10.10.8.2, Dest. IP: 10.8.8.2
Layer 2: Ethernet II Header 000C.CFDA. 5B02 >> 0001.96B2.EB02
Layer 1: Port GigabitEthernet1/2

### Out Layers

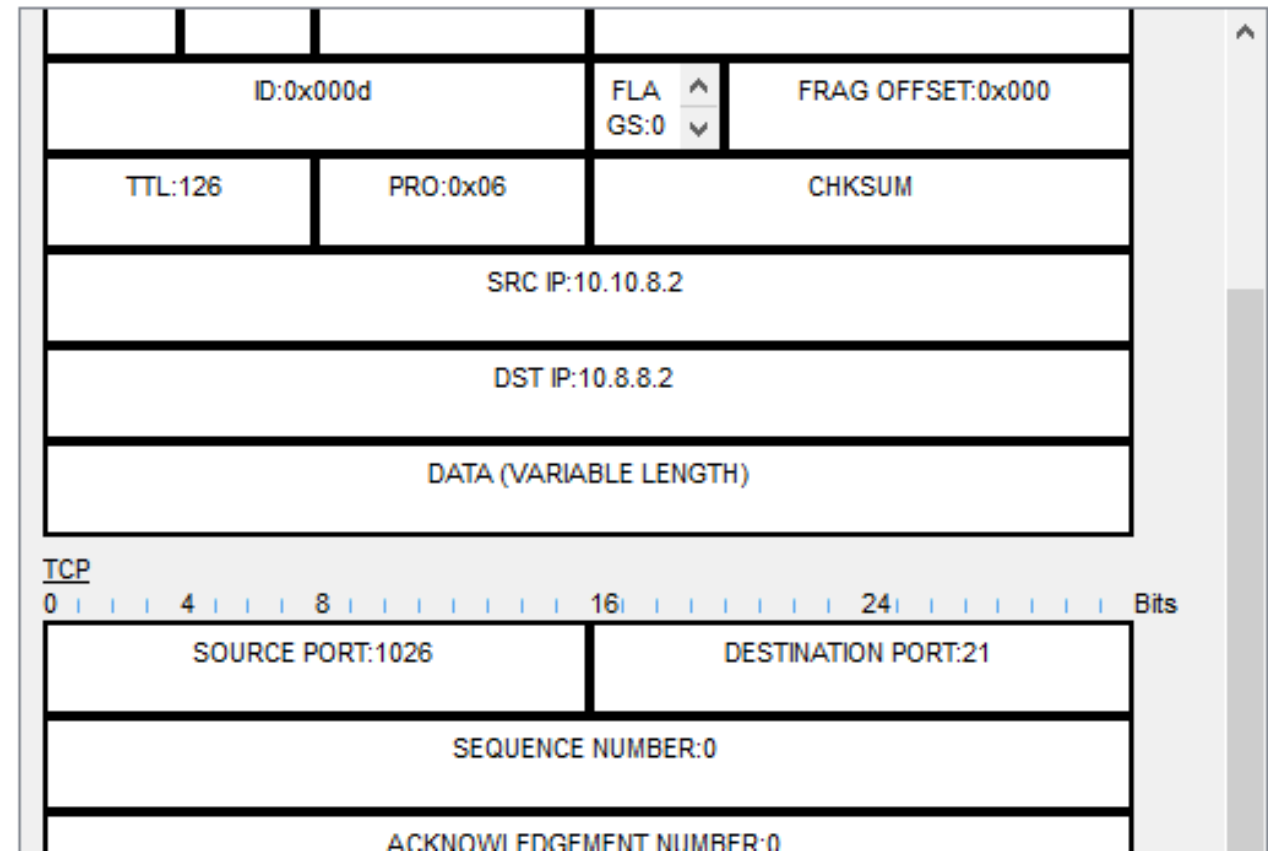
Layer7
Layer6
Layer5
Layer4
Layer3
Layer2
Layer1

1. The receiving port has an inbound traffic access-list with an ID of ULSA. The device checks the packet against the access-list.
2. The packet matches the criteria of the following statement: deny ip any any. The packet is denied and dropped.

## PDU Information at Device: Firewall

OSI Model    Inbound PDU Details

### PDU Formats





# Bloqueo firewall explicacion

Después de cambiar la dirección IP de la PC de 10.5.2.2 a 10.10.2.2 e intentar establecer una conexión con el servidor, el firewall bloquea el tráfico, ya que el paquete de datos con la nueva IP no cumple con los criterios definidos en las listas de acceso configuradas.