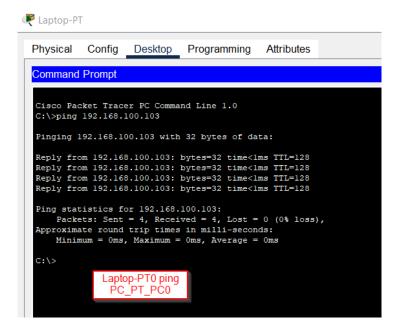
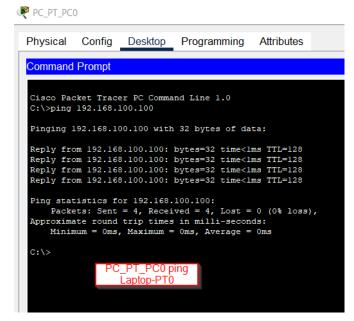
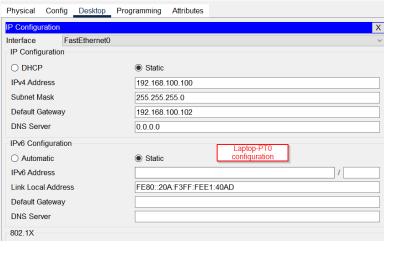
## **ESERCIZIO EPICODE W2D1**

L'esercizio consiste nella creazione di una rete di calcolatori per mezzo del tool *CISCO Packet Tracer*. L'obiettivo è imparare il più possibile riguardo l'interazione dei livelli 2 e 3 del modello *OSI*.

1. Mettere in comunicazione il Laptop-PT0 con IP 192.168.100.100 con il PC-PT-PC0 avente IP 192.168.100.103.

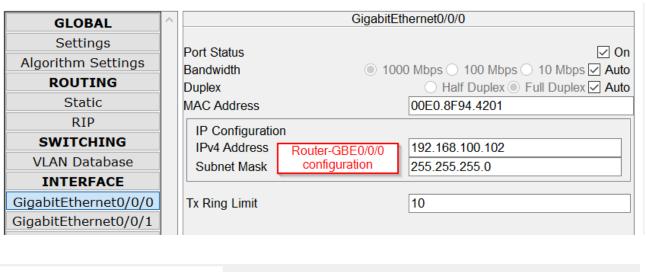


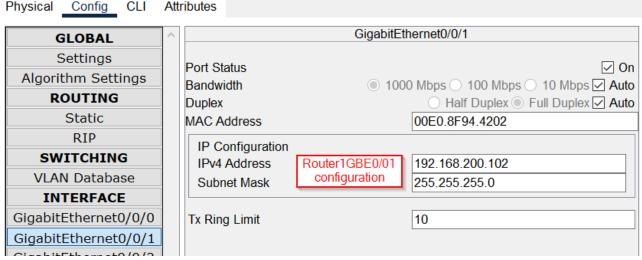




Physical Config Deskto	Programming Attributes	
IP Configuration		Х
Interface FastEtherne IP Configuration	0	`
ODHCP	<ul><li>Static</li></ul>	
IPv4 Address	192.168.100.103	
Subnet Mask	255.255.255.0	
Default Gateway	192.168.100.102	
DNS Server	0.0.0.0	
IPv6 Configuration	PC-PT-PC0	
○ Automatic	Static     configuration	
IPv6 Address		/
Link Local Address	FE80::2E0:B0FF:FE25:D07C	
Default Gateway		
DNS Server		
802.1X		

2. Mettere in comunicazione il Laptop-PT0 con IP 192.168.100.100 con il laptop-PT2 avente IP 192.168.200.100.





```
C:\>ping 192.168.200.100
                                                                               Cisco Packet Tracer PC Command Line 1.0
                                                                               C:\>ping 192.168.100.100
Pinging 192.168.200.100 with 32 bytes of data:
                                                                               Pinging 192.168.100.100 with 32 bytes of data:
Reply from 192.168.200.100: bytes=32 time<1ms TTL=127
Reply from 192.168.200.100: bytes=32 time<1ms TTL=127
                                                                               Reply from 192.168.100.100: bytes=32 time<lms TTL=127
Reply from 192.168.200.100: bytes=32 time=1ms TTL=127
                                                                               Reply from 192.168.100.100: bytes=32 time<1ms TTL=127
Reply from 192.168.200.100: bytes=32 time<1ms TTL=127
                                                                               Reply from 192.168.100.100: bytes=32 time<1ms TTL=127
                                                                               Reply from 192.168.100.100: bytes=32 time<1ms TTL=127
Ping statistics for 192.168.200.100:
Packets: Sent = 4, Received = 4, Lost = 0 (0% loss), Approximate round trip times in milli-seconds:
                                                                               Ping statistics for 192.168.100.100:
                                                                               Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 1ms, Average = 0ms
                                                                                   Minimum = 0ms, Maximum = 0ms, Average = 0ms
                                                                               C:\>
                          Laptop-PT2 ping Laptop-
PT0
                                                                                                                     Laptop-PT2 ping
                                                                                                                       Laptop-PT0
```

3. Mostrare quanlitativamente come cambiano <<source MAC e destination MAC>> e <<source IP & destination IP>> quando un pacchetto viene inviato dal Laptop-PT0 verso il Laptop-PT2

At Device: Switch1
Source: Laptop-PT0
Destination: Laptop-PT2

## In Layers

Layer7
Layer6
Layer5
Layer4
Layer3
Layer 2: Ethernet II Header
000A.F3E1.40AD >> 00E0.8F94.4201
Layer 1: Port FastEthernet0/1

**Out Layers** 

Layer7
Layer6
Layer5
Layer4
Layer3

Layer 2: Ethernet II Header 000A.F3E1.40AD >> 00E0.8F94.4201 Layer 1: Port(s): GigabitEthernet0/1

1. FastEthernet0/1 receives the frame.

At Device: Router1 Source: Laptop-PT0 Destination: Laptop-PT2

# In Layers Layer7

Layer6
Layer5
Layer4
Layer 3: IP Header Src. IP:
192.168.100.100, Dest. IP:
192.168.200.100 ICMP Message
Type: 8
Layer 2: Ethernet II Header

Layer 1: Port GigabitEthernet0/0/0

000A.F3E1.40AD >> 00E0.8F94.4201

Out Layers

Layer7 Layer6 Layer5

Layer4

Layer 3: IP Header Src. IP: 192.168.100.100, Dest. IP:

192.168.200.100 ICMP Message Type:

Layer 2: Ethernet II Header

00E0.8F94.4202 >> 0002.16CB.C35E

Layer 1: Port(s): GigabitEthernet0/0/1

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

At Device: Switch2 Source: Laptop-PT0 Destination: Laptop-PT2

#### In Layers

Layer7
Layer6
Layer5
Layer4
Layer3

Layer 2: Ethernet II Header 00E0.8F94.4202 >> 0002.16CB.C35E

Layer 1: Port GigabitEthernet0/1

Out Layers

Layer7
Layer6
Layer5
Layer4
Layer3

Layer 2: Ethernet II Header 00E0.8F94.4202 >> 0002.16CB.C35E

Layer 1: Port(s): FastEthernet0/2

1. GigabitEthernet0/1 receives the frame.

At Device: Laptop-PT2 Source: Laptop-PT0 Destination: Laptop-PT2

### In Layers

Layer4

Layer6 Layer5

Layer 3: IP Header Src. IP: 192.168.100.100, Dest. IP: 192.168.200.100 ICMP Message Type: 8

Layer 2: Ethernet II Header 00E0.8F94.4202 >> 0002.16CB.C35E

Layer 1: Port FastEthernet0

**Out Layers** 

Layer7 Layer6

Layer5

Layer4

Layer 3: IP Header Src. IP: 192.168.200.100, Dest. IP:

192.168.100.100 ICMP Message Type:

Layer 2: Ethernet II Header

0002.16CB.C35E >> 00E0.8F94.4202

Layer 1: Port(s): FastEthernet0

- 1. The packet's destination IP address matches the device's IP address or the broadcast address. The device de-encapsulates the packet.
- 2. The packet is an ICMP packet. The ICMP process processes it.
- 3. The ICMP process received an Echo Request message.