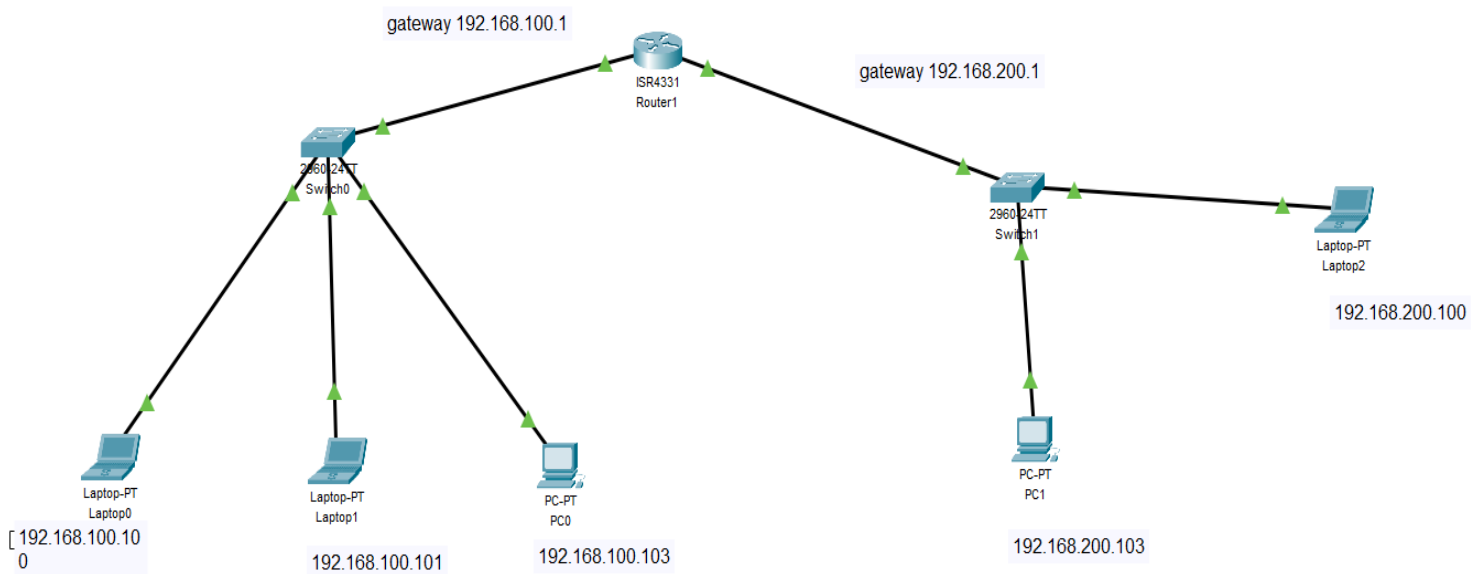


CONFIGURAZIONE DI UNA RETE DI CALCOLATORI CON IL TOOL CISCO PACKET TRACER.

L'esercizio consiste nel:

1. Mettere in comunicazione il Laptop0 con IP 192.168.100.100 con il PC0 con IP 192.168.100.103
2. Mettere in comunicazione il Laptop 0 con IP 192.168.100.100 con il Laptop 2 con IP 192.168.200.100
3. Mostrare qualitativamente come cambiano <<Source MAC e destination MAC>> e << source IP e destination IP>> quando un pacchetto viene inviato dal Laptop-PT-Laptop0 verso Laptop-PT-Laptop2.

Schema di rete creato



Una volta creato schema seguendo la traccia dell'esercizio ho collegato tra loro tutti i dispositivi e ho proseguito assegnando ad ognuno gli indirizzi IP.

Prima sottorete:

Laptop0: 192.168.100.100

Laptop1: 192.168.100.101

Pc0: 192.168.100.103

Seconda sottorete:

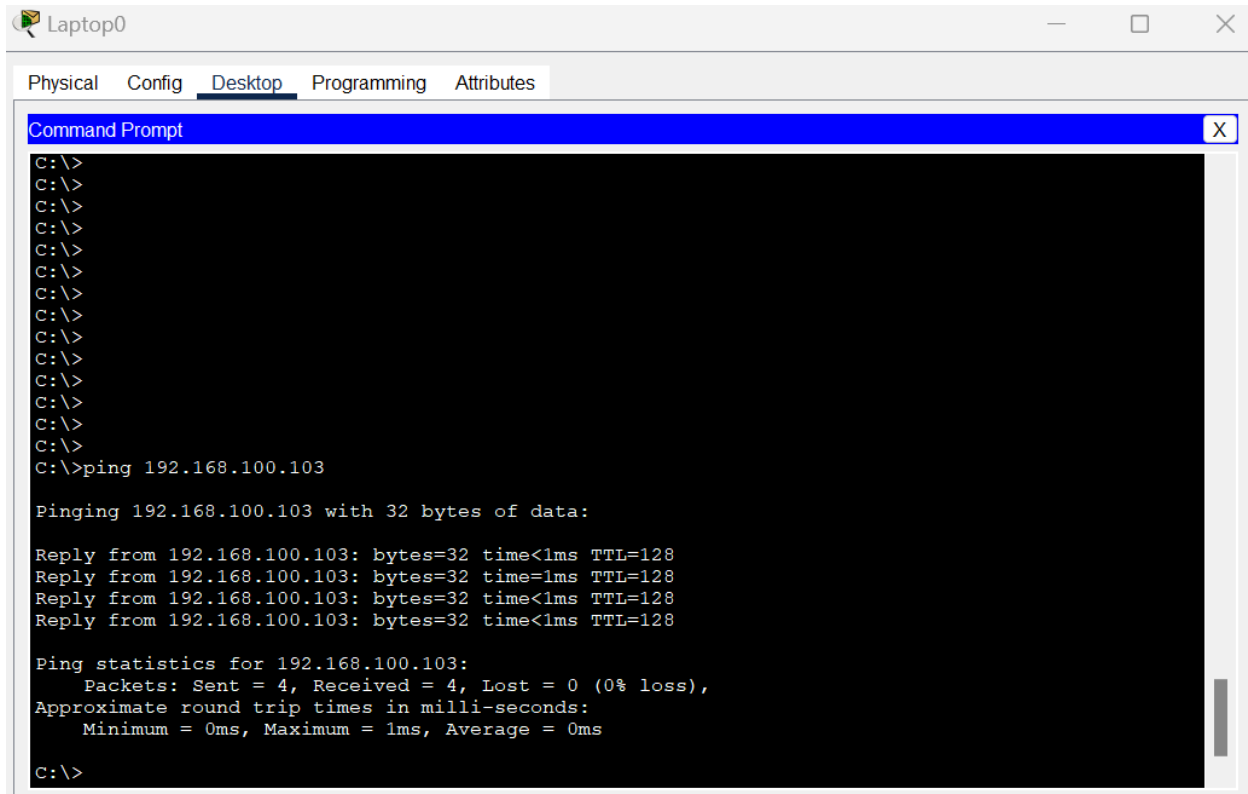
Laptop2 192.168.200.100

Pc1: 192.168.200.103

Gateway sottorete uno: 192.168.100.1

Gateway sottorete due: 192.168.200.1

1. Mettere in comunicazione il Laptop0 con IP 192.168.100.100 con il PC0 con IP 192.168.100.103



The screenshot shows a Windows-style window titled "Laptop0" with tabs for "Physical", "Config", "Desktop", "Programming", and "Attributes". The "Desktop" tab is active, displaying a "Command Prompt" window. The command prompt shows a series of "C:\>" prompts, followed by the command "C:\>ping 192.168.100.103". The output indicates a successful ping to 192.168.100.103 with 32 bytes of data, showing four replies with 0% loss and round trip times of 0ms.

```
C:\>
C:\>
C:\>
C:\>
C:\>
C:\>
C:\>
C:\>
C:\>
C:\>
C:\>
C:\>
C:\>
C:\>
C:\>
C:\>ping 192.168.100.103

Pinging 192.168.100.103 with 32 bytes of data:

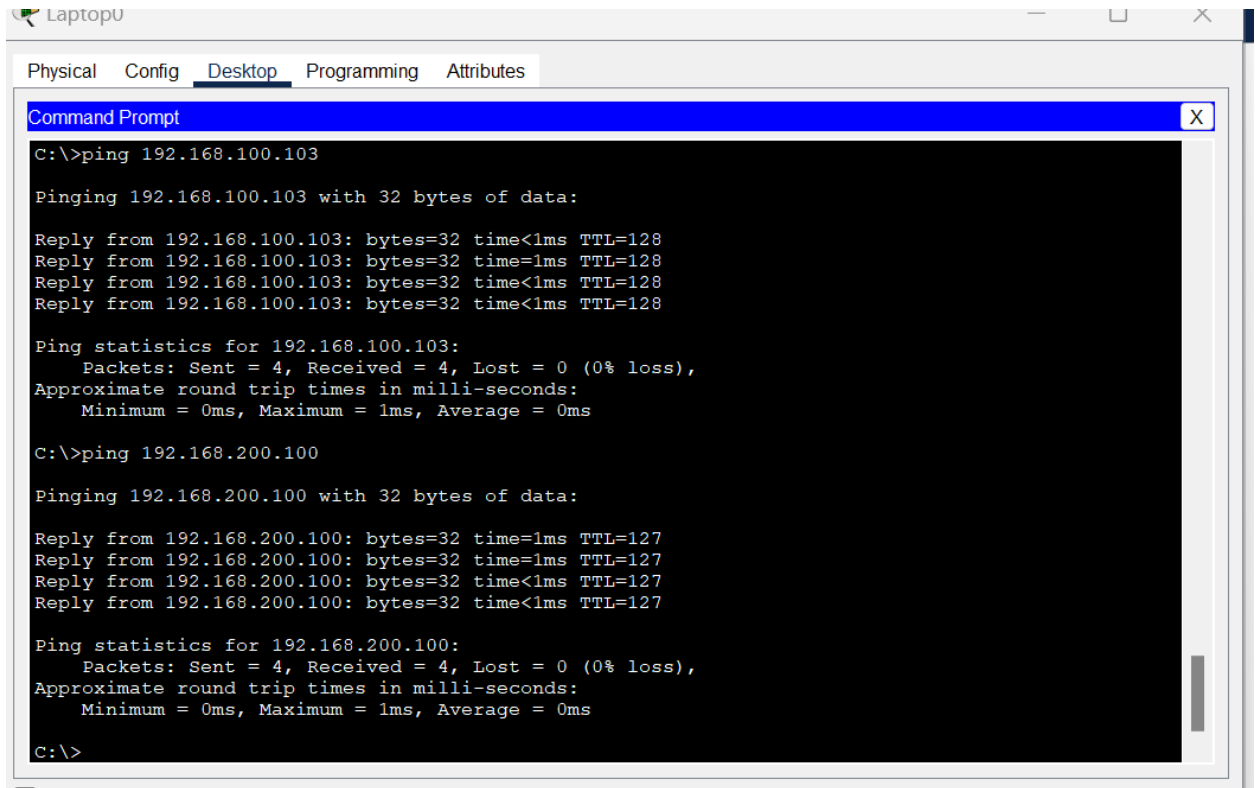
Reply from 192.168.100.103: bytes=32 time<1ms TTL=128
Reply from 192.168.100.103: bytes=32 time=1ms TTL=128
Reply from 192.168.100.103: bytes=32 time<1ms TTL=128
Reply from 192.168.100.103: bytes=32 time<1ms TTL=128

Ping statistics for 192.168.100.103:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 1ms, Average = 0ms

C:\>
```

Come dimostra lo screen sopra il ping tra i due dispositivi è avvenuto con successo.

2. Mettere in comunicazione il Laptop 0 con IP 192.168.100.100 con il Laptop 2 con IP 192.168.200.100



```
Laptop0
Physical Config Desktop Programming Attributes
Command Prompt
C:\>ping 192.168.100.103

Pinging 192.168.100.103 with 32 bytes of data:

Reply from 192.168.100.103: bytes=32 time<1ms TTL=128
Reply from 192.168.100.103: bytes=32 time=1ms TTL=128
Reply from 192.168.100.103: bytes=32 time<1ms TTL=128
Reply from 192.168.100.103: bytes=32 time<1ms TTL=128

Ping statistics for 192.168.100.103:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 1ms, Average = 0ms

C:\>ping 192.168.200.100

Pinging 192.168.200.100 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 192.168.200.100: bytes=32 time<1ms TTL=127
Reply from 192.168.200.100: 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:
        Minimum = 0ms, Maximum = 1ms, Average = 0ms

C:\>
```

Come dimostra lo screen sopra il ping tra i due dispositivi è avvenuto con successo.

3. Mostrare qualitativamente come cambiano <<Source MAC e destination MAC>> e << source IP e destination IP>> quando un pacchetto viene inviato dal Laptop-PT-Laptop0 verso Laptop-PT-Laptop2.

PDU Information at Device: Laptop2

OSI Model Inbound PDU Details Outbound PDU Details

At Device: Laptop2
Source: Laptop0
Destination: 192.168.200.100

In Layers	Out Layers
Layer7	Layer7
Layer6	Layer6
Layer5	Layer5
Layer4	Layer4
Layer 3: IP Header Src. IP: 192.168.100.100, Dest. IP: 192.168.200.100 ICMP Message Type: 8	Layer 3: IP Header Src. IP: 192.168.200.100, Dest. IP: 192.168.100.100 ICMP Message Type: 0
Layer 2: Ethernet II Header 0002.1655.3802 >> 0030.F297.2763	Layer 2: Ethernet II Header 0030.F297.2763 >> 0002.1655.3802
Layer 1: Port FastEthernet0	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.

At Device: Laptop2
Source: Laptop0
Destination: 192.168.200.100

In Layers	Out Layers
Layer7	Layer7
Layer6	Layer6
Layer5	Layer5
Layer4	Layer4
Layer 3: IP Header Src. IP: 192.168.100.100, Dest. IP: 192.168.200.100 ICMP Message Type: 8	Layer 3: IP Header Src. IP: 192.168.200.100, Dest. IP: 192.168.100.100 ICMP Message Type: 0
Layer 2: Ethernet II Header 0002.1655.3802 >> 0030.F297.2763	Layer 2: Ethernet II Header 0030.F297.2763 >> 0002.1655.3802
Layer 1: Port FastEthernet0	Layer 1: Port(s): FastEthernet0

1. The frame's destination MAC address matches the receiving port's MAC address, the broadcast address, or a multicast address.
2. The device decapsulates the PDU from the Ethernet frame.