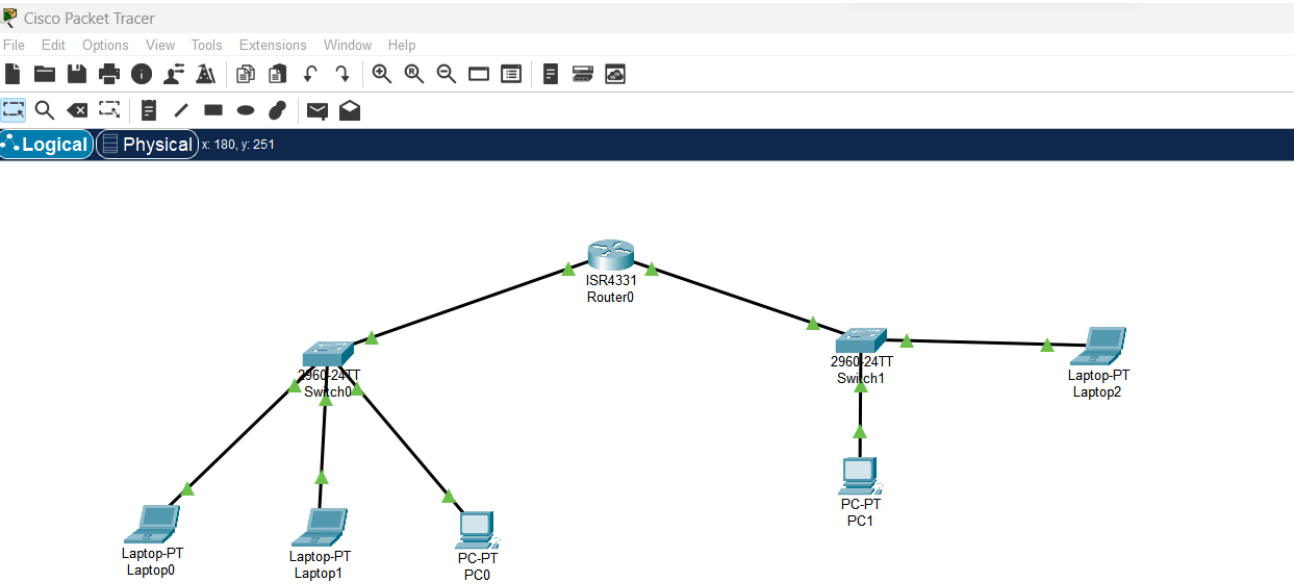


Creazione ed analisi di una rete di calcolatori

Architettura di rete



Laptop0

Physical Config **Desktop** Programming Attributes

IP Configuration X

Interface FastEthernet0

IP Configuration

☐ DHCP ☒ Static

IPv4 Address 192.168.100.100

Subnet Mask 255.255.255.0

Default Gateway 192.168.100.1

DNS Server 0.0.0.0

Laptop1

Physical Config **Desktop** Programming Attributes

IP Configuration X

Interface FastEthernet0

IP Configuration

☐ DHCP ☒ Static

IPv4 Address 192.168.100.101

Subnet Mask 255.255.255.0

Default Gateway 192.168.100.1

DNS Server 0.0.0.0

DNS Server 0.0.0.0

PC0

Physical Config Desktop Programming Attributes

IP Configuration X

Interface FastEthernet0

IP Configuration

☐ DHCP ☒ Static

IPv4 Address 192.168.100.102

Subnet Mask 255.255.255.0

Default Gateway 192.168.100.1

DNS Server 0.0.0.0

PC1

Physical Config Desktop Programming Attributes

IP Configuration X

Interface FastEthernet0

IP Configuration

☐ DHCP ☒ Static

IPv4 Address 192.168.200.101

Subnet Mask 255.255.255.0

Default Gateway 192.168.200.1

DNS Server 0.0.0.0

Laptop2

Physical Config Desktop Programming Attributes

IP Configuration X

Interface FastEthernet0

IP Configuration

☐ DHCP ☒ Static

IPv4 Address 192.168.200.100

Subnet Mask 255.255.255.0

Default Gateway 192.168.200.1

DNS Server 0.0.0.0

Router0

Physical Config CLI Attributes

GLOBAL

Settings

Algorithm Settings

ROUTING

Static

RIP

SWITCHING

VLAN Database

INTERFACE

GigabitEthernet0/0/0

GigabitEthernet0/0/1

GigabitEthernet0/0/2

GigabitEthernet0/0/0

Port Status ☒ On

Bandwidth ☒ 1000 Mbps ☐ 100 Mbps ☐ 10 Mbps ☒ Auto

Duplex ☐ Half Duplex ☒ Full Duplex ☒ Auto

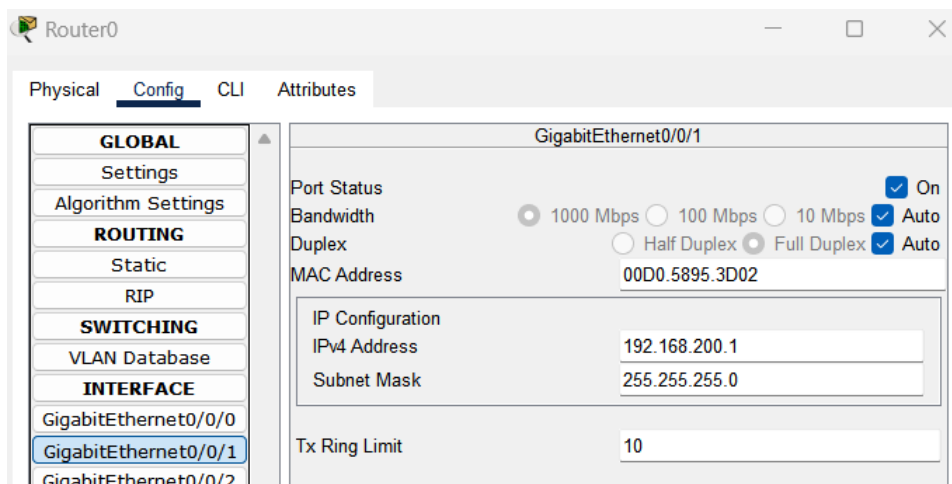
MAC Address 00D0.5895.3D01

IP Configuration

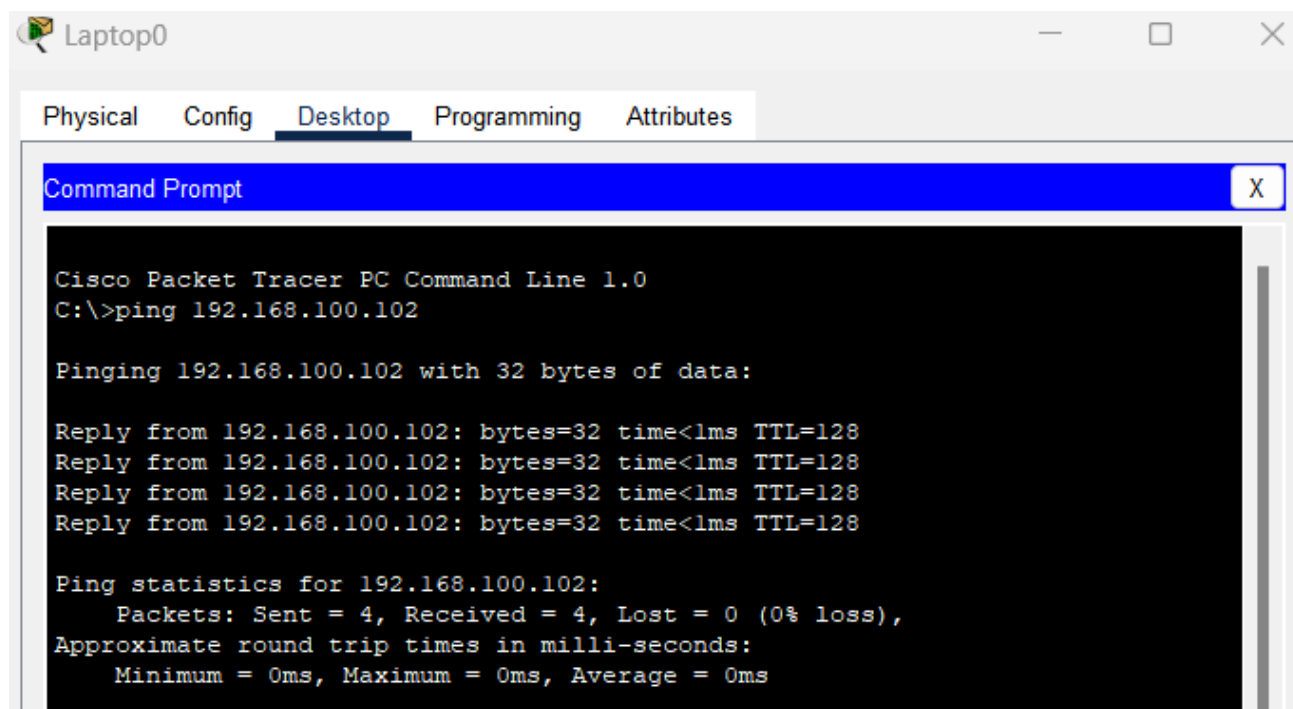
IPv4 Address 192.168.100.1

Subnet Mask 255.255.255.0

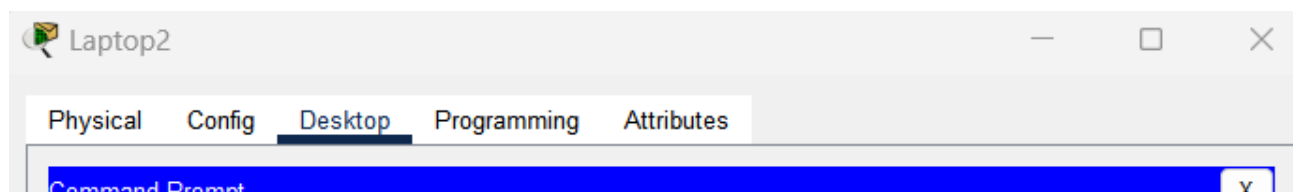
Tx Ring Limit 10



Es. 1: mettere in comunicazione il Laptop PTO con IP 192.168.100.100 con il PC-PT-PC0 con IP 192.168.100.102



Es. 2: mettere in comunicazione il Laptop PTO con IP 192.168.100.100 con il Laptop PT2 con IP 192.168.200.100



```
Command Prompt

Cisco Packet Tracer PC Command Line 1.0
C:\>ping 192.168.100.100

Pinging 192.168.100.100 with 32 bytes of data:

Reply from 192.168.100.100: 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
Reply from 192.168.100.100: bytes=32 time=19ms TTL=127

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 = 19ms, Average = 4ms

C:\>
```

Es. 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: Laptop0

OSI Model

Outbound PDU Details

At Device: Laptop0
Source: Laptop0
Destination: 192.168.200.100

In Layers

Layer7

Layer6

Layer5

Layer4

Layer3

Layer2

Layer1

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: 8

Layer 2: Ethernet II Header 00D0.D392.A337 >> 00D0.5895.3D01

Layer 1: Port(s): FastEthernet0

1. The Ping process starts the next ping request.

2. The Ping process creates an ICMP Echo Request message and sends it to the lower process.

3. The source IP address is not specified. The device sets it to the port's IP address.

4. The destination IP address 192.168.200.100 is not in the same subnet and is not the broadcast address.

5. The default gateway is set. The device sets the next-hop to default gateway.

PDU Information at Device: Switch0

OSI Model

Inbound PDU Details

Outbound PDU Details

At Device: Switch0
Source: Laptop0
Destination: 192.168.200.100

In Layers

Layer7
Layer6
Layer5
Layer4
Layer3
Layer 2: Ethernet II Header
00D0.D392.A337 >> 00D0.5895.3D01
Layer 1: Port FastEthernet0/1

Out Layers

Layer7
Layer6
Layer5
Layer4
Layer3
Layer 2: Ethernet II Header
00D0.D392.A337 >> 00D0.5895.3D01
Layer 1: Port(s): GigabitEthernet0/1

1. FastEthernet0/1 receives the frame.

PDU Information at Device: Router0

OSI Model

Inbound PDU Details

Outbound PDU Details

At Device: Router0
Source: Laptop0
Destination: 192.168.200.100

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
00D0.D392.A337 >> 00D0.5895.3D01
Layer 1: Port GigabitEthernet0/0/0

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: 8
Layer 2: Ethernet II Header
00D0.5895.3D02 >> 0060.3E28.E7DD
Layer 1: Port(s): GigabitEthernet0/0/1

1. GigabitEthernet0/0/0 receives the frame.

PDU Information at Device: Switch1

OSI Model

Inbound PDU Details

Outbound PDU Details

At Device: Switch1
Source: Laptop0
Destination: 192.168.200.100

In Layers

Layer7
Layer6
Layer5

Out Layers

Layer7
Layer6
Layer5

Layer 7
Layer 4
Layer 3
Layer 2: Ethernet II Header 00D0.5895.3D02 >> 0060.3E28.E7DD
Layer 1: Port GigabitEthernet0/2

Layer 7
Layer 4
Layer 3
Layer 2: Ethernet II Header 00D0.5895.3D02 >> 0060.3E28.E7DD
Layer 1: Port(s): FastEthernet0/2

1. GigabitEthernet0/2 receives the frame.

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

Layer 7
Layer 6
Layer 5
Layer 4
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 00D0.5895.3D02 >> 0060.3E28.E7DD
Layer 1: Port FastEthernet0

Out Layers

Layer 7
Layer 6
Layer 5
Layer 4
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 0060.3E28.E7DD >> 00D0.5895.3D02
Layer 1: Port(s): FastEthernet0

1. FastEthernet0 receives the frame.