

Il Laptop-PT0 con IPV4 192.168.100.100 e il PC-PT-PC0 con IPV4 192.168.100.103 sono entrambe appartenenti alla stessa rete e collegati allo Switch0 e, tramite questo ultimo, possono comunicare; infatti il dato dal LAPTop-PT0 viene inviato allo switch0, nel dato viene indicato l'IP del PC-PT-PC0 e il MAC Address dello Switch0, questo ultimo tramite Protocollo ARP sa che l'indirizzo IP è del MAC del PC-PT-PC0 e consegnato; come dimostrato dal ping test effettuato sul Laptop-PT0 IPV4 192.168.100.100 cercando il 192.168.100.103, test che mostra l'assenza di perdita di pacchetti e la regolare consegna dei dati

```
FastEthernet0 Connection:(default port)

Connection-specific DNS Suffix...:
Link-local IPv6 Address.....: FE80::200:CFF:FE17:85C3
IPv6 Address.....: ::
IPv4 Address.....: 192.168.100.100
Subnet Mask.....: 255.255.255.0
Default Gateway.....: ::
                        192.168.100.1
```

Bluetooth Connection:

```
Connection-specific DNS Suffix...:
Link-local IPv6 Address.....: ::
IPv6 Address.....: ::
IPv4 Address.....: 0.0.0.0
Subnet Mask.....: 0.0.0.0
Default Gateway.....: ::
                        0.0.0.0
```

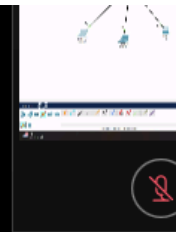
```
C:\>ping 192.168.100.103
```

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 = 0ms, Average = 0ms
```

```
C:\>
```



Sulla seconda rete con Switch1 è presente il laptop-PT2 con IP 192.168.200.100.
Gli switch 0 e 1 sono inoltre collegati ad un router configurato nel seguente modo:

- alla porta Ethernet 0 la rete 192.168.100.x impostando l'IPv4 del Gateway 192.168.100.1
- alla porta Ethernet 1 la rete 192.168.200.x impostando l'IPv4 del Gateway 192.168.200.1

The screenshot shows the configuration window for Router0, specifically the 'Config' tab for the 'GigabitEthernet0/0/0' interface. The left sidebar contains a tree view with categories: GLOBAL (Settings, Algorithm Settings), ROUTING (Static, RIP), SWITCHING (VLAN Database), and INTERFACE (GigabitEthernet0/0/0, GigabitEthernet0/0/1, GigabitEthernet0/0/2). The main area displays the configuration for GigabitEthernet0/0/0, including Port Status (On), Bandwidth (100 Mbps), Duplex (Full Duplex), MAC Address (0002.170C.ED01), IP Configuration (IPv4 Address: 192.168.100.1, Subnet Mask: 255.255.255.0), and Tx Ring Limit (10). At the bottom, a section titled 'Equivalent IOS Commands' lists the configuration steps in a terminal-like format. A 'Top' button is located at the bottom left of the window.

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 0002.170C.ED01

IP Configuration

IPv4 Address 192.168.100.1

Subnet Mask 255.255.255.0

Tx Ring Limit 10

Equivalent IOS Commands

```
Router(config-if)#exit
Router(config)#interface GigabitEthernet0/0/1
Router(config-if)#
Router(config-if)#exit
Router(config)#interface GigabitEthernet0/0/0
Router(config-if)#
Router(config-if)#exit
Router(config)#interface GigabitEthernet0/0/1
Router(config-if)#
Router(config-if)#exit
Router(config)#interface GigabitEthernet0/0/0
Router(config-if)#
```

☐ Top

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

GigabitEthernet0/0/1

Port Status

Bandwidth

Duplex

MAC Address

IP Configuration

IPv4 Address

Subnet Mask

Tx Ring Limit

1000 Mbps

100 Mbps

10 Mbps

Auto

Half Duplex

Full Duplex

Auto

0002.170C.ED02

192.168.200.1

255.255.255.0

10

Equivalent IOS Commands

Router(config-if)#exit

Router(config)#interface GigabitEthernet0/0/1

Router(config-if)#

Router(config-if)#exit

Router(config)#interface GigabitEthernet0/0/0

Router(config-if)#

Router(config-if)#exit

Router(config)#interface GigabitEthernet0/0/0

Router(config-if)#

Router(config-if)#exit

Router(config)#interface GigabitEthernet0/0/1

Router(config-if)#

Top

Al fine di testare l'effettiva comunicazione tra le due reti, viene effettuato il ping test sul Laptop-PT0 collegato alla rete 192.168.100 verso il laptop-PT2 collegato alla rete all'altra rete con IPV4 192.168.200.100

Come si può notare dalla schermata il test viene portato a termine tranquillamente senza perdita di dati, sintomo di una corretta ed efficiente configurazione della rete.

```
C:\>ipconfig

FastEthernet0 Connection:(default port)

    Connection-specific DNS Suffix...:
    Link-local IPv6 Address . . . . .: FE80::200:CFF:FE17:85C3
    IPv6 Address . . . . .: ::
    IPv4 Address . . . . .: 192.168.100.100
    Subnet Mask . . . . .: 255.255.255.0
    Default Gateway . . . . .: ::
                                   192.168.100.1

Bluetooth Connection:

    Connection-specific DNS Suffix...:
    Link-local IPv6 Address . . . . .: ::
    IPv6 Address . . . . .: ::
    IPv4 Address . . . . .: 0.0.0.0
    Subnet Mask . . . . .: 0.0.0.0
    Default Gateway . . . . .: ::
                                   0.0.0.0

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 = 0ms, Average = 0ms
```