

Ho impostato i due IP del router

- 192.168.100.1 lato sx
- 192.168.200.1 lato dx

Ho impostato i Gateway del PC0, LAPTOP0 e LAPTOP1 con 192.168.100.1 e del PC1 e LAPTOP2 con 192.168.200.1 in quanto in questo caso coincidono con l'ip del router.

Laptop1 - 192.168.100.102

Physical
Config
Desktop
Programming
Attributes

Command Prompt

```

Cisco Packet Tracer PC Command Line 1.0
C:\> ping 192.168.100.1

Pinging 192.168.100.1 with 32 bytes of data:

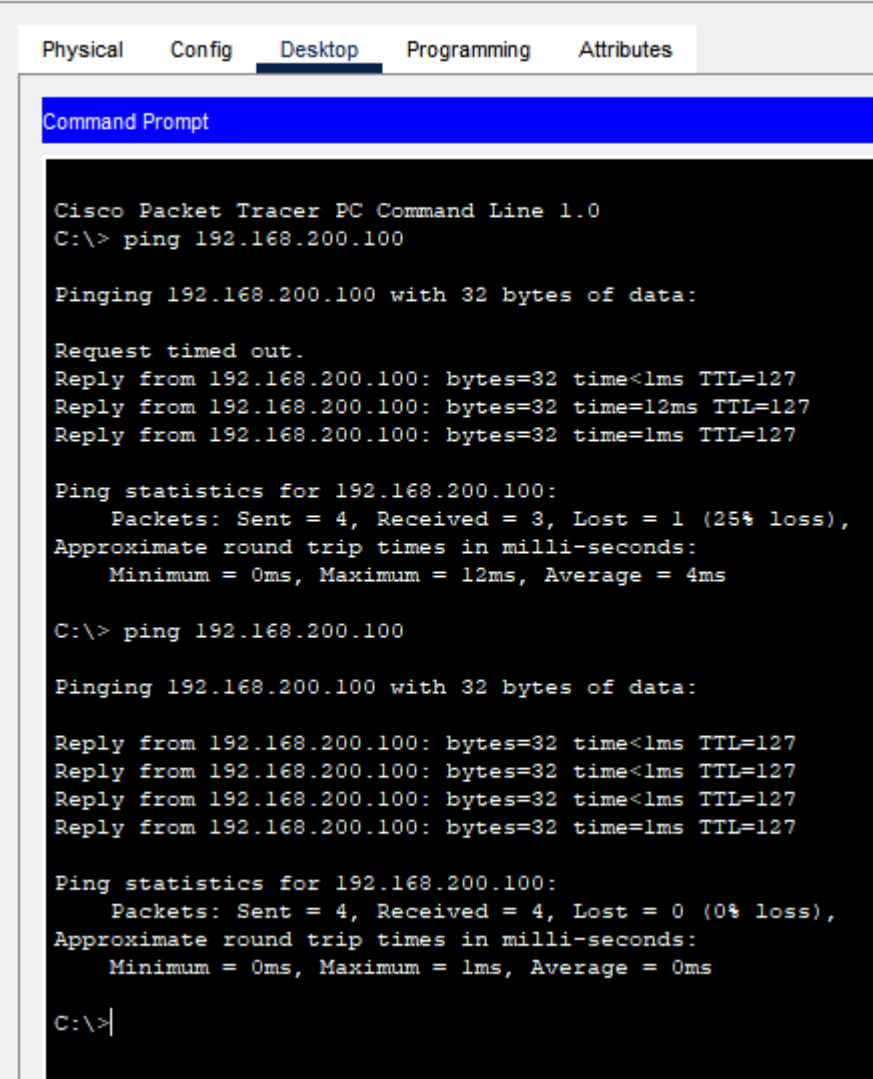
Reply from 192.168.100.1: bytes=32 time<1ms TTL=255
Reply from 192.168.100.1: bytes=32 time<1ms TTL=255
Reply from 192.168.100.1: bytes=32 time<1ms TTL=255
Reply from 192.168.100.1: bytes=32 time<1ms TTL=255

Ping statistics for 192.168.100.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\>|

```

ping LAPTOP1 con ROUTER 192.168.100.1



```
Physical  Config  Desktop  Programming  Attributes

Command Prompt

Cisco Packet Tracer PC Command Line 1.0
C:\> ping 192.168.200.100

Pinging 192.168.200.100 with 32 bytes of data:

Request timed out.
Reply from 192.168.200.100: bytes=32 time<1ms TTL=127
Reply from 192.168.200.100: bytes=32 time=12ms 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 = 3, Lost = 1 (25% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 12ms, Average = 4ms

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:\>|
```

Ping PC0 con LAPTOP0

PC1 - 192.168.200.101

```
Physical  Config  Desktop  Programming  Attributes

Command Prompt

Cisco Packet Tracer PC Command Line 1.0
C:\> ping 192.168.200.101

Pinging 192.168.200.101 with 32 bytes of data:

Reply from 192.168.200.101: bytes=32 time=5ms TTL=128
Reply from 192.168.200.101: bytes=32 time=1ms TTL=128
Reply from 192.168.200.101: bytes=32 time=15ms TTL=128
Reply from 192.168.200.101: bytes=32 time=14ms TTL=128

Ping statistics for 192.168.200.101:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 1ms, Maximum = 15ms, Average = 8ms

C:\> ping 192.168.200.100

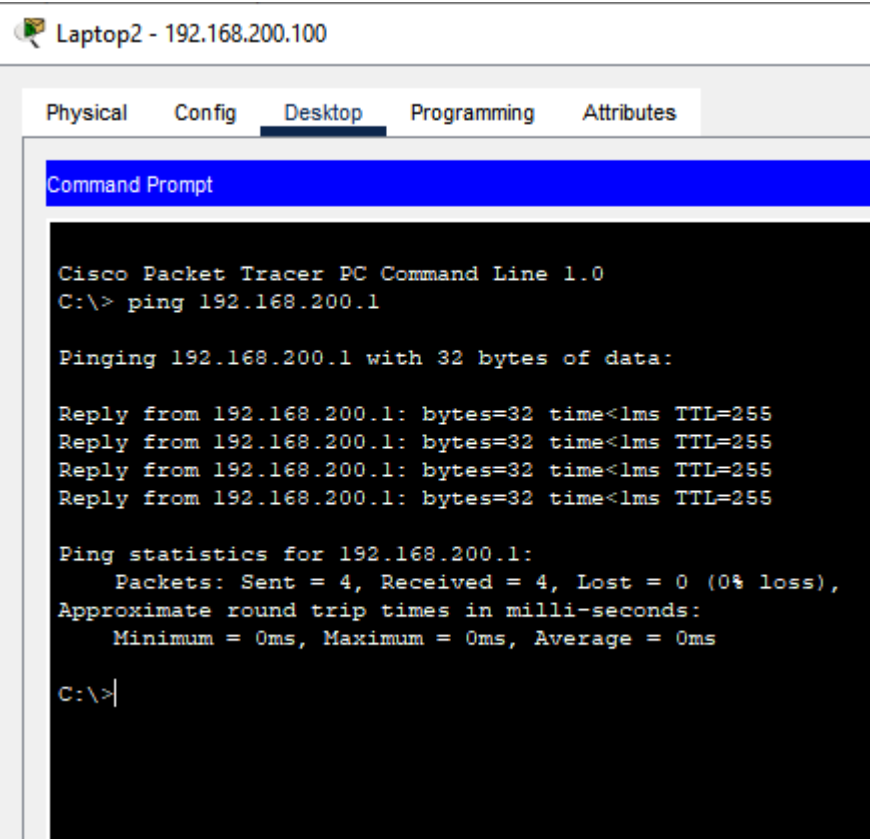
Pinging 192.168.200.100 with 32 bytes of data:

Reply from 192.168.200.100: bytes=32 time<1ms TTL=128
Reply from 192.168.200.100: bytes=32 time<1ms TTL=128
Reply from 192.168.200.100: bytes=32 time<1ms TTL=128
Reply from 192.168.200.100: bytes=32 time<1ms TTL=128

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

C:\>
```

Ping PC1 con LAPTOP2



Ping LAPTOP2 con ROUTER 192.168.200.1

Laptop0 - 192.168.100.100

Physical Config **Desktop** Programming Attributes

Command Prompt

```
Cisco Packet Tracer PC Command Line 1.0
C:\> ping 192.168.103
Ping request could not find host 192.168.103. Please check
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:\> ping 192.168.200.1

Pinging 192.168.200.1 with 32 bytes of data:

Reply from 192.168.200.1: bytes=32 time<1ms TTL=255
Reply from 192.168.200.1: bytes=32 time<1ms TTL=255
Reply from 192.168.200.1: bytes=32 time<1ms TTL=255
Reply from 192.168.200.1: bytes=32 time<1ms TTL=255

Ping statistics for 192.168.200.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\>|
```

Ping LAPTOP0 con ROUTER 192.168.200.1

```

Cisco Packet Tracer PC Command Line 1.0
C:\> ping 192.168.200.1

Pinging 192.168.200.1 with 32 bytes of data:

Reply from 192.168.200.1: bytes=32 time<1ms TTL=255
Reply from 192.168.200.1: bytes=32 time<1ms TTL=255
Reply from 192.168.200.1: bytes=32 time<1ms TTL=255
Reply from 192.168.200.1: bytes=32 time<1ms TTL=255

Ping statistics for 192.168.200.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\> ping 192.168.100.1

Pinging 192.168.100.1 with 32 bytes of data:

Reply from 192.168.100.1: bytes=32 time<1ms TTL=255
Reply from 192.168.100.1: bytes=32 time<1ms TTL=255
Reply from 192.168.100.1: bytes=32 time<1ms TTL=255
Reply from 192.168.100.1: bytes=32 time<1ms TTL=255

Ping statistics for 192.168.100.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 1ms, Average = 0ms

C:\>
  
```

ping LAPTOP2 con ROUTER 192.168.100.1

Quando un dispositivo invia un pacchetto verso un altro dispositivo di un'altra rete per far sì che quest'ultimo lo riceva, c'è bisogno di un router, in quanto essendo un device di tipo 3, permette la trasmissione a differenza dello switch, che garantisce solo la trasmissione di un pacchetto tra dispositivi appartenenti alla stessa rete, basandosi sul MAC address.

Questo accade poiché il pacchetto dal LAPTOP0, una volta giunto allo switch di riferimento, viene a sua volta instradato verso il router, che dopo aver controllato il routing table di destinazione, lo trasmette al LAPTOP2.

Il pacchetto di LAPTOP0 verso il LAPTOP2 sarà così composto:

- Header di sorgente con il proprio IP (datagramma) e MAC (frame);
- Header di destinazione con IP (datagramma) e MAC (frame) di LAPTOP2
- Header di destinazione con MAC del suo router di riferimento.

Una volta ricevuto il router girerà al LAPTOP2, il pacchetto così composto:

- Header di destinazione con MAC di LAPTOP2
- Header di sorgente il MAC del router di riferimento di LAPTOP2.