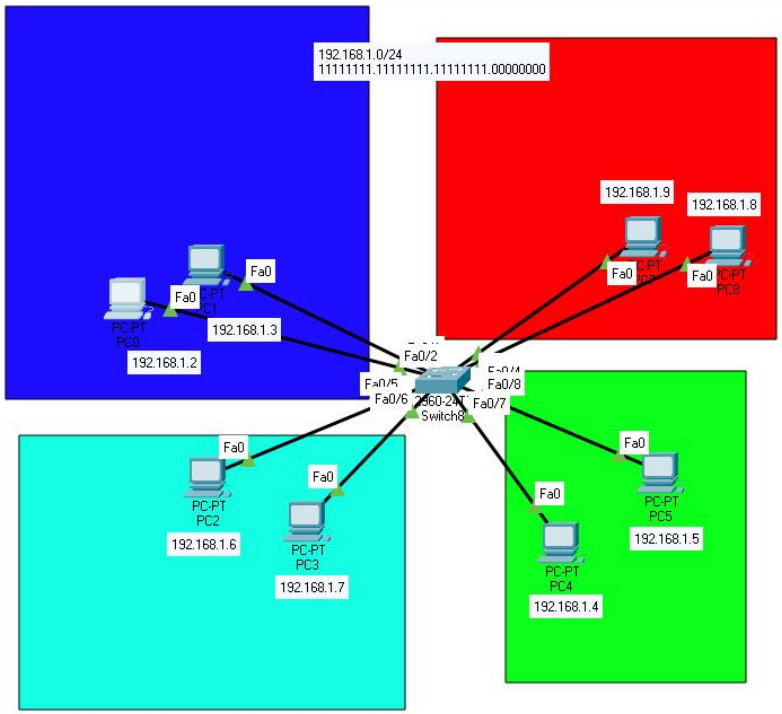
Relazione S1-L5

Creazione di una rete segmentata con 4 VLAN diverse. Spiega le motivazioni per cui si è scelto di ricorrere alle VLAN.

The VLAN is used to divide and isolate LAN segments. In a workplace, it's used for security reasons or for performance. The VLAN lets you isolate/divide the traffic between these groups, and it makes it harder for any non-authorized person to access/intercept the files (from the inside and from the inside or from the outside. The VLAN make it easier to manage any network, and it's possible to create new ones "on the go", in a centralized way. In the project that we made for today we utilized 4 Different VLAN with a switch 2960 of 2nd level without a Router. Each group is divided by 2 host And Every VLAN is different between them. Effectively isolating each group by themselves not letting any comunication through.

La VLAN viene usata per dividere e isolare i segmenti della LAN. In un ambiente di lavoro, viene usata per la sua sicurezza o a volte anche per performance. La VLAN ti permette di isola rare/dividere il traffico da questi gruppi, e rende più difficili gli accessi non-autorizzati da autori esterni/interni. La VLAN rende più facile Controllare e modificare qualunque network ed è possibile creare nuove VLAN "on the go", in modo centralizzato. Nel progetto di oggi abbiamo utilizzato 4 VLAN differenti con uno switch 2960 di 2ndo livello, senza Router. Ogni gruppo è diviso da 2 Host e ogni VLAN è Diversa. Isolando ogni gruppo a se non permettendo la comunicazione Tra di loro.



PC0

Physical Config Desktop Programming Attributes

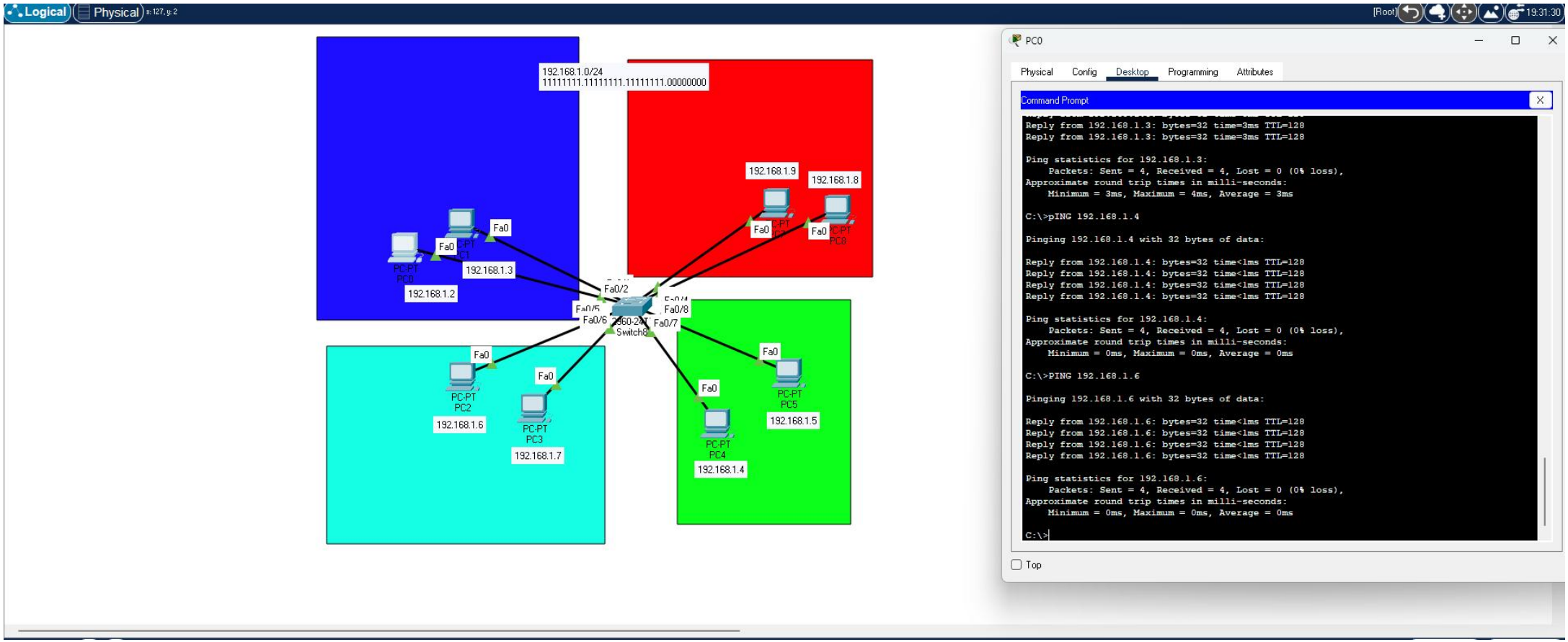
Command Prompt

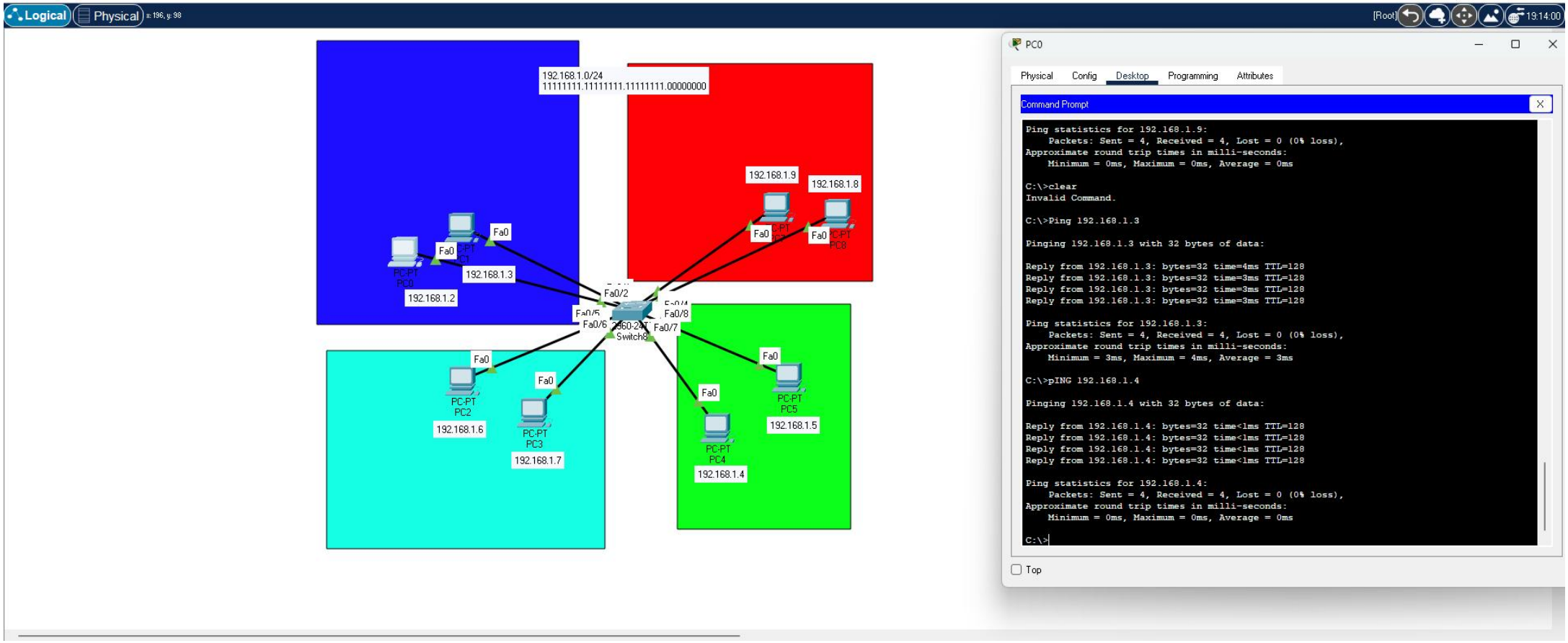
```
Ping statistics for 192.168.1.9:
    Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\>ping 192.168.1.9

Pinging 192.168.1.9 with 32 bytes of data:

Reply from 192.168.1.9: bytes=32 time<1ms TTL=128
Reply from 192.168.1.9: bytes=32 time<1ms TTL=128
Reply from 192.168.1.9: bytes=32 time<1ms TTL=128
Reply from 192.168.1.9: bytes=32 time<1ms TTL=128

Ping statistics for 192.168.1.9:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\>clear
Invalid Command.

C:\>Ping 192.168.1.3

Pinging 192.168.1.3 with 32 bytes of data:

Reply from 192.168.1.3: bytes=32 time=4ms TTL=128
Reply from 192.168.1.3: bytes=32 time=3ms TTL=128
Reply from 192.168.1.3: bytes=32 time=3ms TTL=128
Reply from 192.168.1.3: bytes=32 time=3ms TTL=128

Ping statistics for 192.168.1.3:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 3ms, Maximum = 4ms, Average = 3ms

C:\>
```

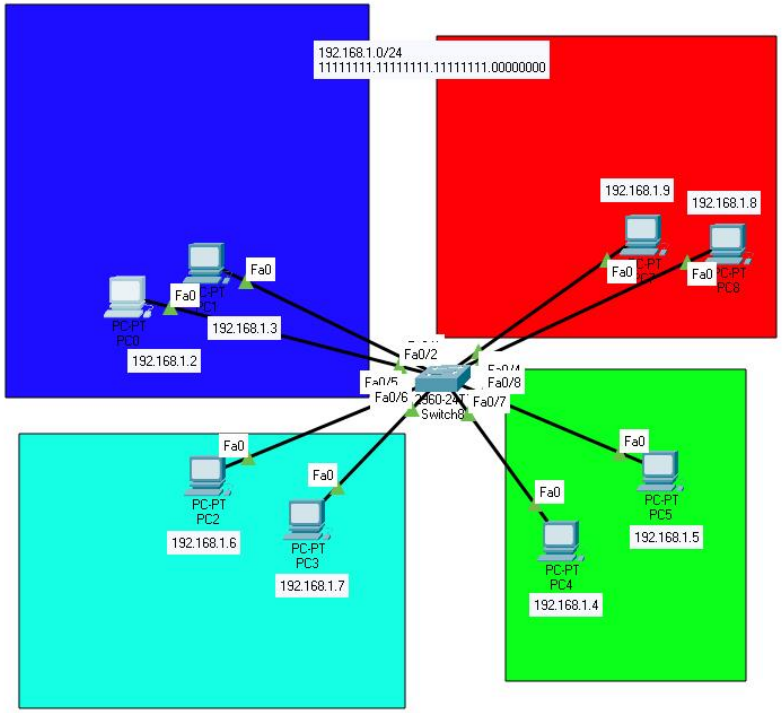
Top

Time: 02:09:01

Realtime Simulation


Logical
Physical
[Root]
19:31:30
192.168.1.0/24
11111111.11111111.11111111.00000000
192.168.1.9
192.168.1.8
Fa0
PC-PT
PC0
192.168.1.2
PC-PT
PC1
192.168.1.3
Fa0/2
Fa0/5
Fa0/6
Fa0/8
Fa0/7
2960-24TT
Switch8
PC-PT
PC2
192.168.1.6
PC-PT
PC3
192.168.1.7
PC-PT
PC4
192.168.1.4
PC-PT
PC5
192.168.1.5
PC0
Physical
Config
Desktop
Programming
Attributes
Command Prompt
Reply from 192.168.1.3: bytes=32 time=3ms TTL=128
Reply from 192.168.1.3: bytes=32 time=3ms TTL=128
Ping statistics for 192.168.1.3:
Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
Minimum = 3ms, Maximum = 4ms, Average = 3ms
C:\>pING 192.168.1.4
Pinging 192.168.1.4 with 32 bytes of data:
Reply from 192.168.1.4: bytes=32 time<1ms TTL=128
Reply from 192.168.1.4: bytes=32 time<1ms TTL=128
Reply from 192.168.1.4: bytes=32 time<1ms TTL=128
Reply from 192.168.1.4: bytes=32 time<1ms TTL=128
Ping statistics for 192.168.1.4:
Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
Minimum = 0ms, Maximum = 0ms, Average = 0ms
C:\>PING 192.168.1.6
Pinging 192.168.1.6 with 32 bytes of data:
Reply from 192.168.1.6: bytes=32 time<1ms TTL=128
Reply from 192.168.1.6: bytes=32 time<1ms TTL=128
Reply from 192.168.1.6: bytes=32 time<1ms TTL=128
Reply from 192.168.1.6: bytes=32 time<1ms TTL=128
Ping statistics for 192.168.1.6:
Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
Minimum = 0ms, Maximum = 0ms, Average = 0ms
C:\>
Top


Logical
Physical
x: 196, y: 98
[Root]
19:14:00
192.168.1.0/24
11111111.11111111.11111111.00000000
192.168.1.9
192.168.1.8
Fa0
C-PT
C1
PC-PT
PC0
192.168.1.3
192.168.1.2
Fa0/2
Fa0/5
Fa0/6
Fa0/8
Fa0/7
2960-24T
Switch8
PC-PT
PC2
192.168.1.6
PC-PT
PC3
192.168.1.7
PC-PT
PC4
192.168.1.4
PC-PT
PC5
192.168.1.5
PC0
Physical
Config
Desktop
Programming
Attributes
Command Prompt
Ping statistics for 192.168.1.9:
Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
Minimum = 0ms, Maximum = 0ms, Average = 0ms
C:\>clear
Invalid Command.
C:\>Ping 192.168.1.3
Pinging 192.168.1.3 with 32 bytes of data:
Reply from 192.168.1.3: bytes=32 time=4ms TTL=128
Reply from 192.168.1.3: bytes=32 time=3ms TTL=128
Reply from 192.168.1.3: bytes=32 time=3ms TTL=128
Reply from 192.168.1.3: bytes=32 time=3ms TTL=128
Ping statistics for 192.168.1.3:
Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
Minimum = 3ms, Maximum = 4ms, Average = 3ms
C:\>pING 192.168.1.4
Pinging 192.168.1.4 with 32 bytes of data:
Reply from 192.168.1.4: bytes=32 time<1ms TTL=128
Reply from 192.168.1.4: bytes=32 time<1ms TTL=128
Reply from 192.168.1.4: bytes=32 time<1ms TTL=128
Reply from 192.168.1.4: bytes=32 time<1ms TTL=128
Ping statistics for 192.168.1.4:
Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
Minimum = 0ms, Maximum = 0ms, Average = 0ms
C:\>
Top



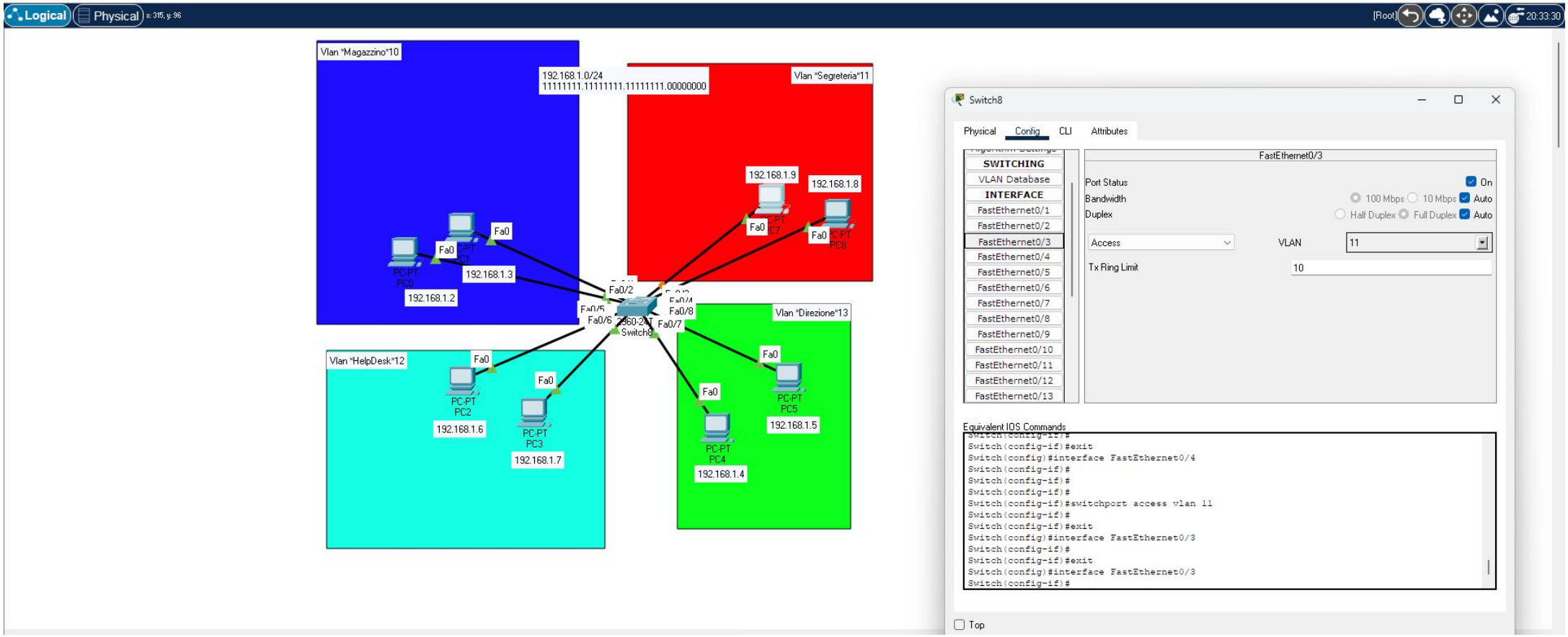
PC0

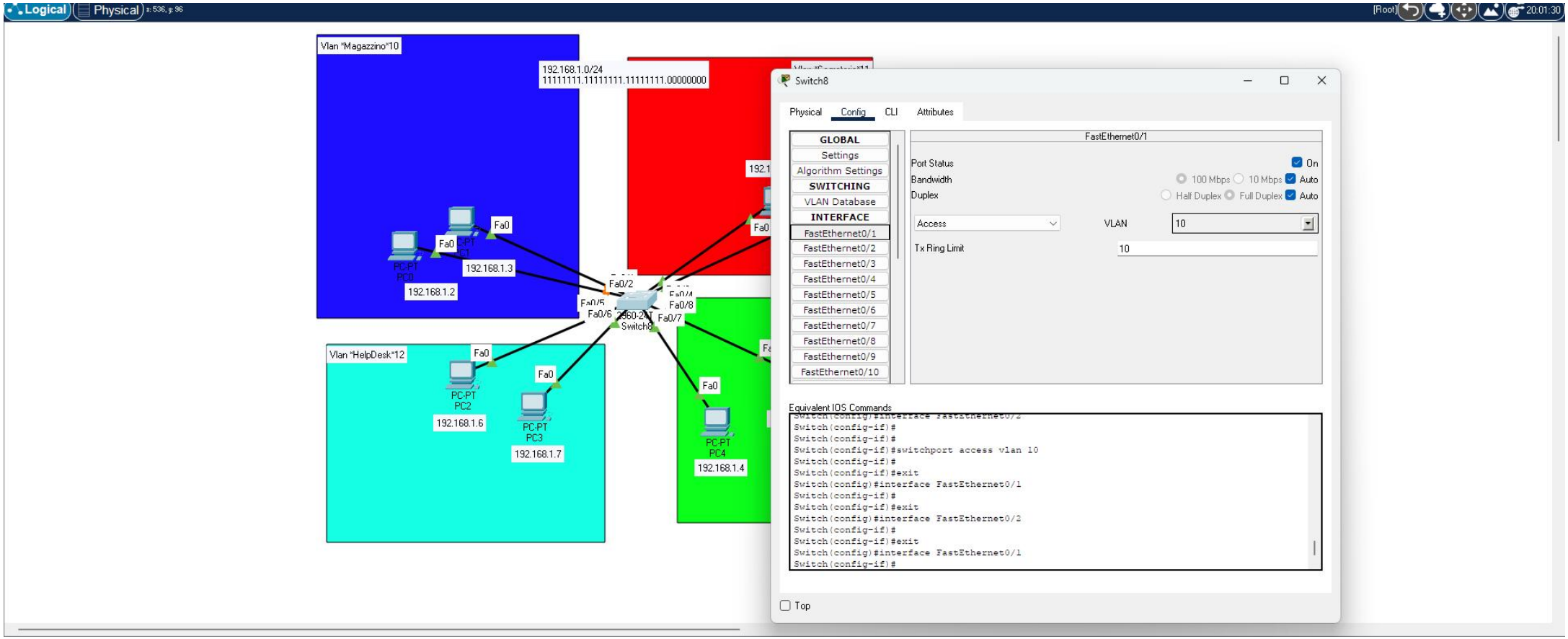
Physical Config Desktop Programming Attributes

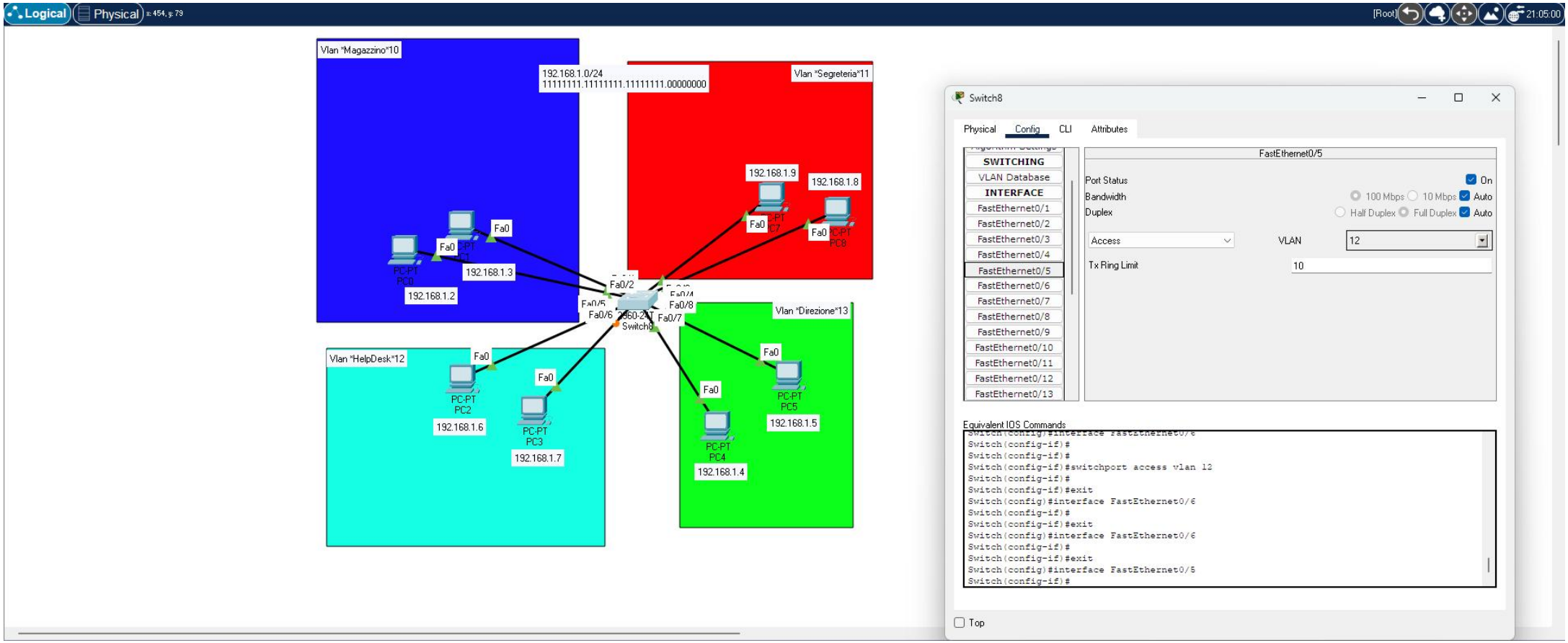
Command Prompt

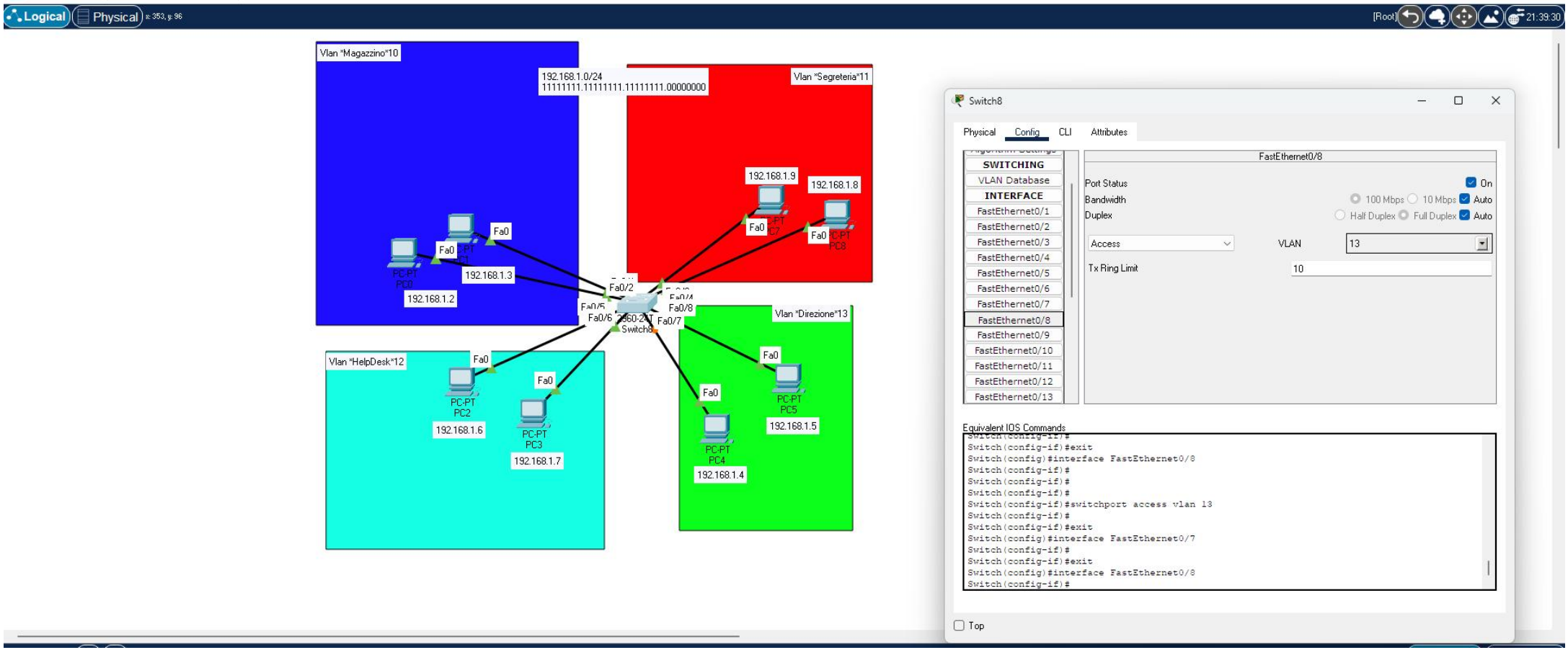
```
Request timed out.
Request timed out.
Request timed out.
Request timed out.

Ping statistics for 192.168.1.9:
    Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),

C:\>ping 192.168.1.9

Pinging 192.168.1.9 with 32 bytes of data:

Request timed out.
Reply from 192.168.1.9: bytes=32 time<1ms TTL=128
Reply from 192.168.1.9: bytes=32 time<1ms TTL=128
Reply from 192.168.1.9: bytes=32 time<1ms TTL=128

Ping statistics for 192.168.1.9:
    Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\>ping 192.168.1.9

Pinging 192.168.1.9 with 32 bytes of data:

Reply from 192.168.1.9: bytes=32 time<1ms TTL=128
Reply from 192.168.1.9: bytes=32 time<1ms TTL=128
Reply from 192.168.1.9: bytes=32 time<1ms TTL=128
Reply from 192.168.1.9: bytes=32 time<1ms TTL=128

Ping statistics for 192.168.1.9:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\>
```

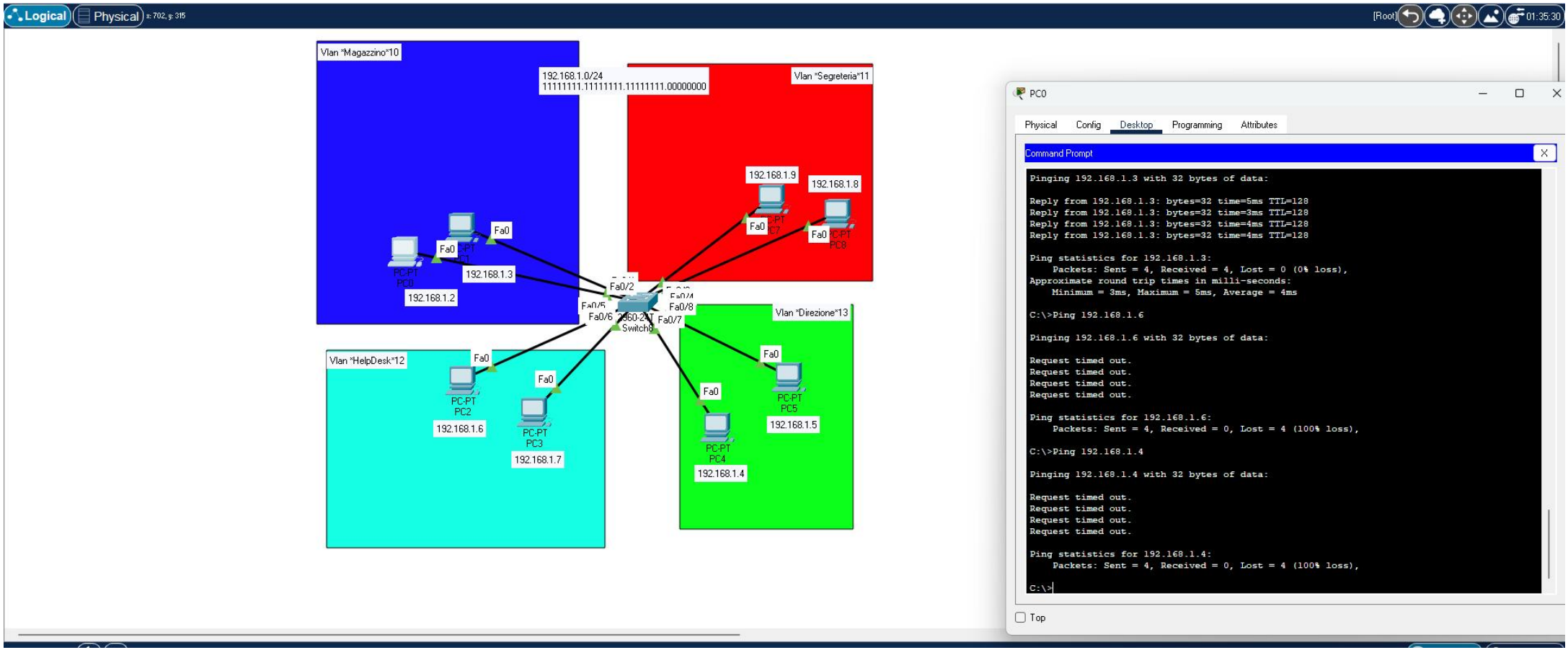
Top

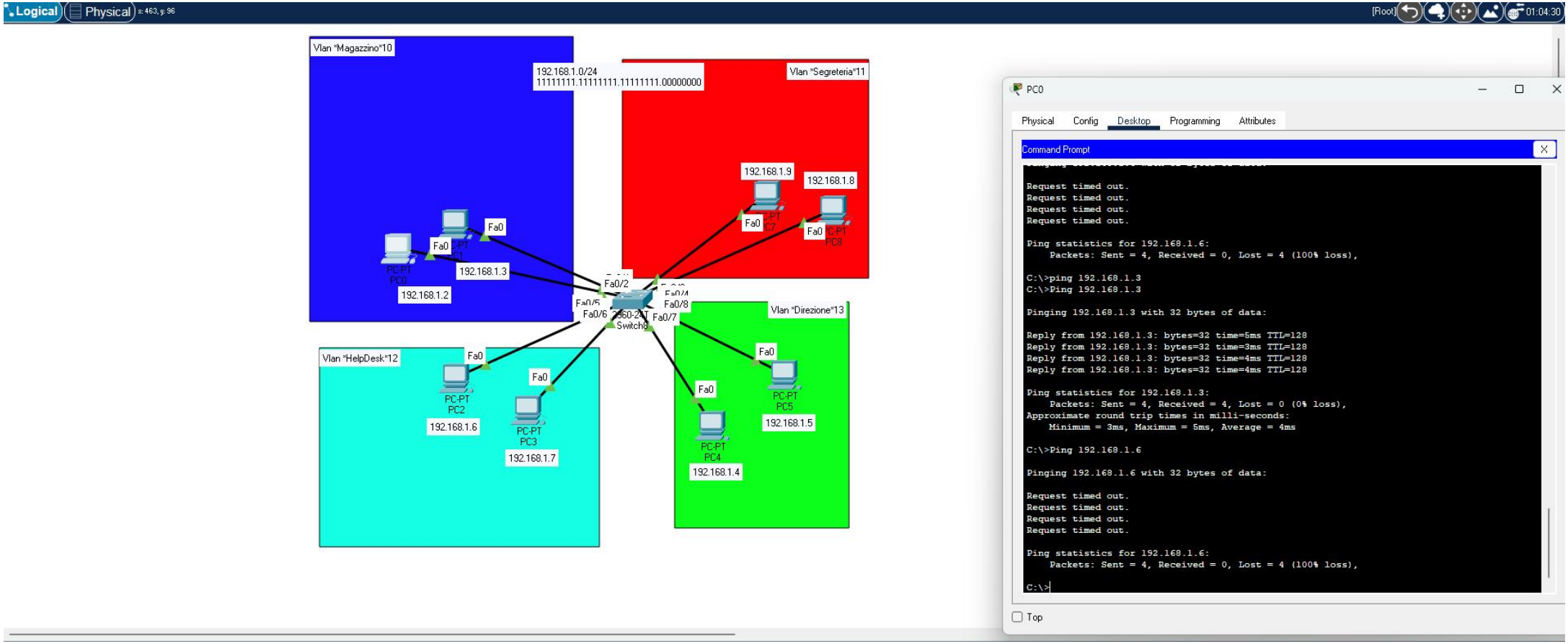

Logical
Physical
x: 315, y: 96
[Root]
20:33:30
Vlan *Magazzino*10
192.168.1.0/24
11111111.11111111.11111111.00000000
Vlan *Segreteria*11
192.168.1.9
192.168.1.8
Fa0
PC-PT PC7
PC-PT PC8
PC-PT PC0
PC-PT PC1
192.168.1.3
192.168.1.2
Fa0/2
Fa0/4
Fa0/8
Fa0/5
Fa0/6
2960-24T
Switch8
Fa0/7
Vlan *Direzione*13
Vlan *HelpDesk*12
PC-PT PC2
192.168.1.6
PC-PT PC3
192.168.1.7
PC-PT PC5
192.168.1.5
PC-PT PC4
192.168.1.4
Switch8
Physical
Config
CLI
Attributes
SWITCHING
VLAN Database
INTERFACE
FastEthernet0/1
FastEthernet0/2
FastEthernet0/3
FastEthernet0/4
FastEthernet0/5
FastEthernet0/6
FastEthernet0/7
FastEthernet0/8
FastEthernet0/9
FastEthernet0/10
FastEthernet0/11
FastEthernet0/12
FastEthernet0/13
FastEthernet0/3
Port Status
On
Bandwidth
100 Mbps
10 Mbps
Auto
Duplex
Half Duplex
Full Duplex
Auto
Access
VLAN
11
Tx Ring Limit
10
Equivalent IOS Commands
Switch(config-if)#
Switch(config-if)#exit
Switch(config)#interface FastEthernet0/4
Switch(config-if)#
Switch(config-if)#
Switch(config-if)#
Switch(config-if)#switchport access vlan 11
Switch(config-if)#
Switch(config-if)#exit
Switch(config)#interface FastEthernet0/3
Switch(config-if)#
Switch(config-if)#exit
Switch(config)#interface FastEthernet0/3
Switch(config-if)#
Top

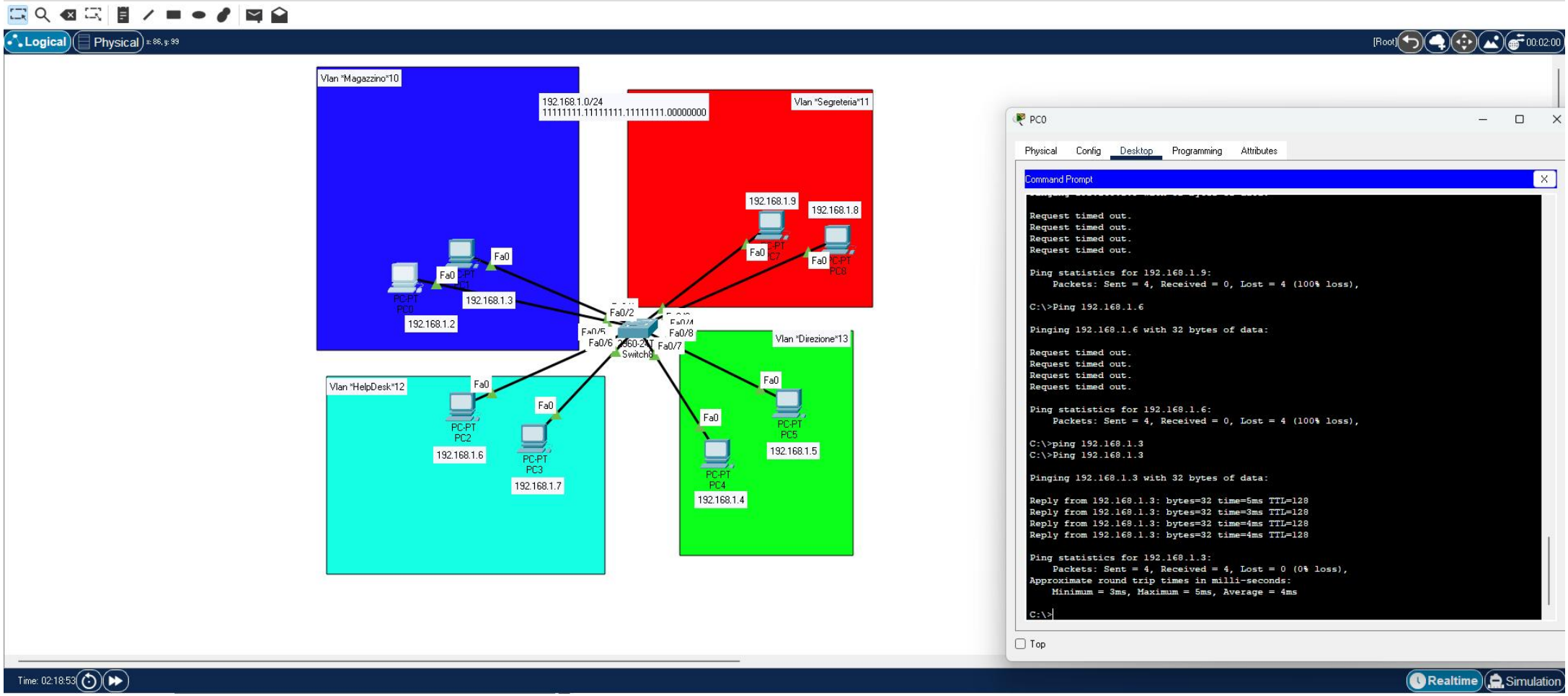

Logical
Physical
x: 536, y: 96
[Root]
20:01:30
Vlan *Magazzino*10
192.168.1.0/24
11111111.11111111.11111111.00000000
Fa0
PC-PT
PC1
PC-PT
PC0
192.168.1.3
192.168.1.2
Fa0/2
Fa0/8
Fa0/7
Fa0/6
Switch8
Vlan *HelpDesk*12
PC-PT
PC2
192.168.1.6
PC-PT
PC3
192.168.1.7
PC-PT
PC4
192.168.1.4
Switch8
Physical
Config
CLI
Attributes
GLOBAL
Settings
Algorithm Settings
SWITCHING
VLAN Database
INTERFACE
FastEthernet0/1
FastEthernet0/2
FastEthernet0/3
FastEthernet0/4
FastEthernet0/5
FastEthernet0/6
FastEthernet0/7
FastEthernet0/8
FastEthernet0/9
FastEthernet0/10
FastEthernet0/1
Port Status
On
Bandwidth
100 Mbps
10 Mbps
Auto
Duplex
Half Duplex
Full Duplex
Auto
Access
VLAN
10
Tx Ring Limit
10
Equivalent IOS Commands
Switch(config)#interface FastEthernet0/2
Switch(config-if)#
Switch(config-if)#
Switch(config-if)#switchport access vlan 10
Switch(config-if)#
Switch(config-if)#exit
Switch(config)#interface FastEthernet0/1
Switch(config-if)#
Switch(config-if)#exit
Switch(config)#interface FastEthernet0/2
Switch(config-if)#
Switch(config-if)#exit
Switch(config)#interface FastEthernet0/1
Switch(config-if)#
Top

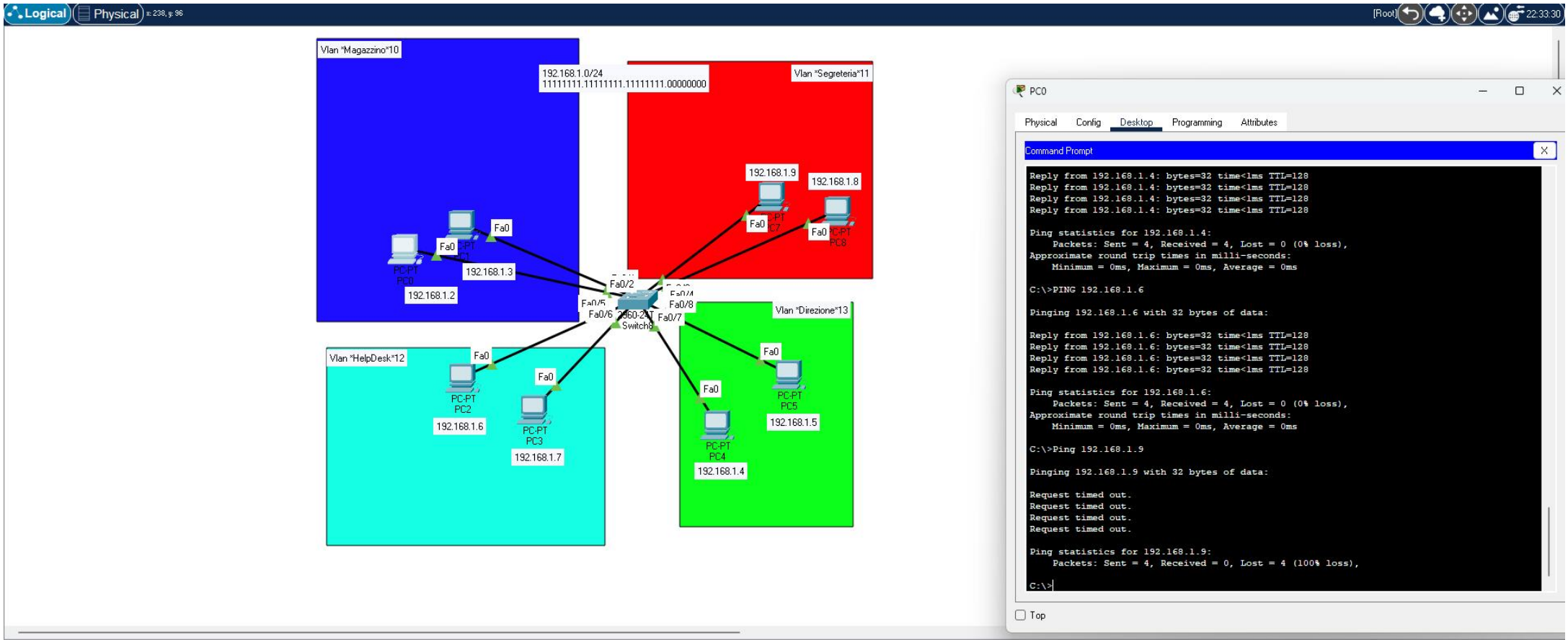

Logical
Physical
x: 454, y: 79
[Root]
21:05:00
Vlan *Magazzino*10
192.168.1.0/24
11111111.11111111.11111111.00000000
Vlan *Segreteria*11
192.168.1.9
192.168.1.8
Fa0
PC-PT PC7
PC-PT PC8
Fa0
Fa0
PC-PT PC1
PC-PT PC0
192.168.1.3
192.168.1.2
Fa0/2
Fa0/8
Fa0/6
Fa0/7
2960-24TT Switch8
Vlan *HelpDesk*12
Vlan *Direzione*13
Fa0
Fa0
PC-PT PC2
192.168.1.6
PC-PT PC3
192.168.1.7
Fa0
Fa0
PC-PT PC5
192.168.1.5
Fa0
PC-PT PC4
192.168.1.4
Switch8
Physical
Config
CLI
Attributes
SWITCHING
VLAN Database
INTERFACE
FastEthernet0/1
FastEthernet0/2
FastEthernet0/3
FastEthernet0/4
FastEthernet0/5
FastEthernet0/6
FastEthernet0/7
FastEthernet0/8
FastEthernet0/9
FastEthernet0/10
FastEthernet0/11
FastEthernet0/12
FastEthernet0/13
FastEthernet0/5
Port Status
On
Bandwidth
100 Mbps
10 Mbps
Auto
Duplex
Half Duplex
Full Duplex
Auto
Access
VLAN
12
Tx Ring Limit
10
Equivalent IOS Commands
Switch(config-if)#
Switch(config-if)#
Switch(config-if)#switchport access vlan 12
Switch(config-if)#
Switch(config-if)#exit
Switch(config)#interface FastEthernet0/6
Switch(config-if)#
Switch(config-if)#exit
Switch(config)#interface FastEthernet0/6
Switch(config-if)#
Switch(config-if)#exit
Switch(config)#interface FastEthernet0/5
Switch(config-if)#
Top


Logical
Physical
x: 353, y: 96
[Root]
21:39:30
Vlan *Magazzino*10
192.168.1.0/24
11111111.11111111.11111111.00000000
Vlan *Segreteria*11
192.168.1.9
192.168.1.8
Fa0
PC-PT PC0
192.168.1.2
192.168.1.3
Fa0/2
Fa0/5
Fa0/6
Fa0/7
Fa0/8
Switch8
Vlan *HelpDesk*12
PC-PT PC2
192.168.1.6
PC-PT PC3
192.168.1.7
Vlan *Direzione*13
PC-PT PC4
192.168.1.4
PC-PT PC5
192.168.1.5
Switch8
Physical
Config
CLI
Attributes
SWITCHING
VLAN Database
INTERFACE
FastEthernet0/1
FastEthernet0/2
FastEthernet0/3
FastEthernet0/4
FastEthernet0/5
FastEthernet0/6
FastEthernet0/7
FastEthernet0/8
FastEthernet0/9
FastEthernet0/10
FastEthernet0/11
FastEthernet0/12
FastEthernet0/13
FastEthernet0/8
Port Status
On
Bandwidth
100 Mbps
10 Mbps
Auto
Duplex
Half Duplex
Full Duplex
Auto
Access
VLAN
13
Tx Ring Limit
10
Equivalent IOS Commands
Switch(config-if)#exit
Switch(config)#interface FastEthernet0/8
Switch(config-if)#
Switch(config-if)#
Switch(config-if)#
Switch(config-if)#switchport access vlan 13
Switch(config-if)#
Switch(config-if)#exit
Switch(config)#interface FastEthernet0/7
Switch(config-if)#
Switch(config-if)#exit
Switch(config)#interface FastEthernet0/8
Switch(config-if)#
Top


Logical
Physical
x: 702, y: 315
[Root]
01:35:30
Vlan *Magazzino*10
192.168.1.0/24
11111111.11111111.11111111.00000000
Vlan *Segreteria*11
192.168.1.9
192.168.1.8
Fa0
PC-PT PC0
192.168.1.2
PC-PT PC1
192.168.1.3
PC-PT PC8
Fa0/2
Fa0/8
Fa0/7
Fa0/6
2960-24TT Switch0
Vlan *Direzione*13
Vlan *HelpDesk*12
PC-PT PC2
192.168.1.6
PC-PT PC3
192.168.1.7
PC-PT PC4
192.168.1.4
PC-PT PC5
192.168.1.5
PC0
Physical
Config
Desktop
Programming
Attributes
Command Prompt
Pinging 192.168.1.3 with 32 bytes of data:
Reply from 192.168.1.3: bytes=32 time=5ms TTL=128
Reply from 192.168.1.3: bytes=32 time=3ms TTL=128
Reply from 192.168.1.3: bytes=32 time=4ms TTL=128
Reply from 192.168.1.3: bytes=32 time=4ms TTL=128
Ping statistics for 192.168.1.3:
Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
Minimum = 3ms, Maximum = 5ms, Average = 4ms
C:\>Ping 192.168.1.6
Pinging 192.168.1.6 with 32 bytes of data:
Request timed out.
Request timed out.
Request timed out.
Request timed out.
Ping statistics for 192.168.1.6:
Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),
C:\>Ping 192.168.1.4
Pinging 192.168.1.4 with 32 bytes of data:
Request timed out.
Request timed out.
Request timed out.
Request timed out.
Ping statistics for 192.168.1.4:
Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),
C:\>
Top


Logical
Physical
[Root]
01:04:30
Vlan *Magazzino*10
192.168.1.0/24
11111111.11111111.11111111.00000000
Vlan *Segreteria*11
192.168.1.9
192.168.1.8
Fa0
PC-PT
PC0
192.168.1.2
192.168.1.3
Fa0/2
Fa0/5
Fa0/6
Fa0/8
Fa0/7
Switch8
Vlan *HelpDesk*12
PC-PT
PC2
192.168.1.6
PC-PT
PC3
192.168.1.7
Vlan *Direzione*13
PC-PT
PC5
192.168.1.5
PC-PT
PC4
192.168.1.4
PC0
Physical
Config
Desktop
Programming
Attributes
Command Prompt
Request timed out.
Request timed out.
Request timed out.
Request timed out.
Ping statistics for 192.168.1.6:
Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),
C:\>ping 192.168.1.3
C:\>Ping 192.168.1.3
Pinging 192.168.1.3 with 32 bytes of data:
Reply from 192.168.1.3: bytes=32 time=5ms TTL=128
Reply from 192.168.1.3: bytes=32 time=3ms TTL=128
Reply from 192.168.1.3: bytes=32 time=4ms TTL=128
Reply from 192.168.1.3: bytes=32 time=4ms TTL=128
Ping statistics for 192.168.1.3:
Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
Minimum = 3ms, Maximum = 5ms, Average = 4ms
C:\>Ping 192.168.1.6
Pinging 192.168.1.6 with 32 bytes of data:
Request timed out.
Request timed out.
Request timed out.
Request timed out.
Ping statistics for 192.168.1.6:
Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),
C:\>
Top


Logical
Physical
[Root]
00:02:00
Vlan *Magazzino*10
192.168.1.0/24
11111111.11111111.11111111.00000000
Vlan *Segreteria*11
192.168.1.9
192.168.1.8
Fa0
PC-PT PC7
PC-PT PC8
PC-PT PC0
PC-PT PC1
192.168.1.3
192.168.1.2
Fa0/2
Fa0/8
Fa0/7
Switch8
Vlan *HelpDesk*12
Vlan *Direzione*13
PC-PT PC2
192.168.1.6
PC-PT PC3
192.168.1.7
PC-PT PC4
192.168.1.4
PC-PT PC5
192.168.1.5
Time: 02:18:53
Realtime
Simulation
PC0
Physical
Config
Desktop
Programming
Attributes
Command Prompt
Request timed out.
Request timed out.
Request timed out.
Request timed out.
Ping statistics for 192.168.1.9:
Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),
C:\>Ping 192.168.1.6
Pinging 192.168.1.6 with 32 bytes of data:
Request timed out.
Request timed out.
Request timed out.
Request timed out.
Ping statistics for 192.168.1.6:
Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),
C:\>ping 192.168.1.3
C:\>Ping 192.168.1.3
Pinging 192.168.1.3 with 32 bytes of data:
Reply from 192.168.1.3: bytes=32 time=5ms TTL=128
Reply from 192.168.1.3: bytes=32 time=3ms TTL=128
Reply from 192.168.1.3: bytes=32 time=4ms TTL=128
Reply from 192.168.1.3: bytes=32 time=4ms TTL=128
Ping statistics for 192.168.1.3:
Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
Minimum = 3ms, Maximum = 5ms, Average = 4ms
C:\>
Top


Logical
Physical
x: 238, y: 96
[Root]
22:33:30
Vlan *Magazzino*10
192.168.1.0/24
11111111.11111111.11111111.00000000
Vlan *Segreteria*11
192.168.1.9
192.168.1.8
Fa0
PC-PT PC0
192.168.1.2
192.168.1.3
Fa0/2
Fa0/8
Fa0/7
Switch
Vlan *Direzione*13
Vlan *HelpDesk*12
PC-PT PC2
192.168.1.6
PC-PT PC3
192.168.1.7
PC-PT PC4
192.168.1.4
PC-PT PC5
192.168.1.5
PC0
Physical
Config
Desktop
Programming
Attributes
Command Prompt
Reply from 192.168.1.4: bytes=32 time<1ms TTL=128
Reply from 192.168.1.4: bytes=32 time<1ms TTL=128
Reply from 192.168.1.4: bytes=32 time<1ms TTL=128
Reply from 192.168.1.4: bytes=32 time<1ms TTL=128
Ping statistics for 192.168.1.4:
Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
Minimum = 0ms, Maximum = 0ms, Average = 0ms
C:\>PING 192.168.1.6
Pinging 192.168.1.6 with 32 bytes of data:
Reply from 192.168.1.6: bytes=32 time<1ms TTL=128
Reply from 192.168.1.6: bytes=32 time<1ms TTL=128
Reply from 192.168.1.6: bytes=32 time<1ms TTL=128
Reply from 192.168.1.6: bytes=32 time<1ms TTL=128
Ping statistics for 192.168.1.6:
Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
Minimum = 0ms, Maximum = 0ms, Average = 0ms
C:\>Ping 192.168.1.9
Pinging 192.168.1.9 with 32 bytes of data:
Request timed out.
Request timed out.
Request timed out.
Request timed out.
Ping statistics for 192.168.1.9:
Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),
C:\>
Top