



Tecnológico de Estudios Superiores de Ecatepec

**División de Ingeniería en Sistemas
Computacionales**

Academia en Ciencias de la Ingeniería

Materia

Administración de Redes

Grupo 5751

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Practica 2

Calcular 20 subredes de la dirección 192.168.1.0

Segmento 11 valido

Segmento 18 valido

Dirección de red = 192.168.1.0

Paso 1: $20 \leq 2^n - 2 = 20 \leq 32$ $n = 5$

Paso 2: Prefijo = $32 - n = 32 - 5 = 27$

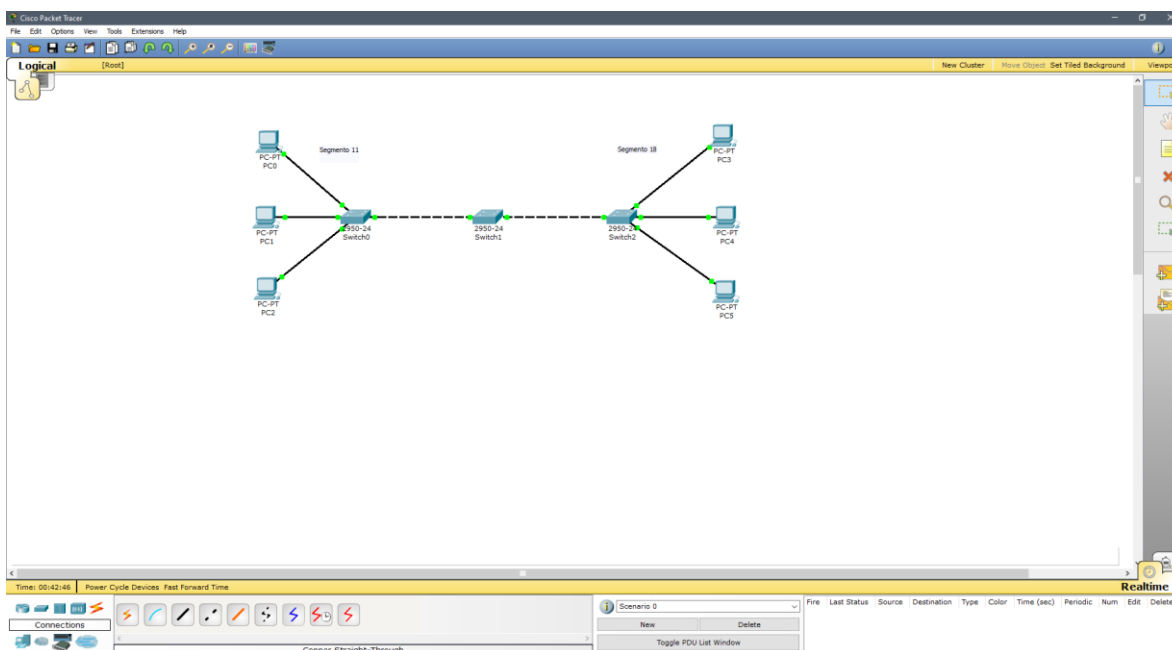
Paso 3: Salto = $2^5 = 32$

Paso 4: 192.168.1.0/27

	DIRECCIÓN DE RED	1er DIRECCIÓN UTILIZABLE	ÚLTIMA DIRECCIÓN UTILIZABLE	DIRECCIÓN DE DIFUSIÓN	MÁSCARA
1	192.168.1.0/27	192.168.1.1/27	192.168.1.30/27	192.168.1.31/27	255.255.255.248
2	192.168.1.32/27	192.168.1.33/27	192.168.1.62/27	192.168.1.63/27	255.255.255.248
3	192.168.1.64/27	192.168.1.65/27	192.168.1.94/27	192.168.1.95/27	255.255.255.248
4	192.168.1.96/27	192.168.1.97/27	192.168.1.126/27	192.168.1.127/27	255.255.255.248
5	192.168.1.128/27	192.168.1.129/27	192.168.1.158/27	192.168.1.159/27	255.255.255.248
6	192.168.1.160/27	192.168.1.161/27	192.168.1.190/27	192.168.1.191/27	255.255.255.248
7	192.168.1.192/27	192.168.1.193/27	192.168.1.222/27	192.168.1.223/27	255.255.255.248
8	192.168.1.224/27	192.168.1.225/27	192.168.1.254/27	192.168.1.255/27	255.255.255.248
9	192.168.2.0/27	192.168.2.1/27	192.168.2.30/27	192.168.2.31/27	255.255.255.248
10	192.168.2.32/27	192.168.2.33/27	192.168.2.62/27	192.168.2.63/27	255.255.255.248
11	192.168.2.64/27	192.168.2.65/27	192.168.2.94/27	192.168.2.93/27	255.255.255.248
12	192.168.2.96/27	192.168.2.97/27	192.168.2.126/27	192.168.2.127/27	255.255.255.248
13	192.168.2.128/27	192.168.2.129/27	192.168.2.158/27	192.168.2.159/27	255.255.255.248
14	192.168.2.160/27	192.168.2.161/27	192.168.2.190/27	192.168.2.191/27	255.255.255.248
15	192.168.2.192/27	192.168.2.193/27	192.168.2.222/27	192.168.2.223/27	255.255.255.248
16	192.168.2.224/27	192.168.2.225/27	192.168.2.254/27	192.168.2.255/27	255.255.255.248
17	192.168.3.0/27	192.168.3.1/27	192.168.3.30/27	192.168.3.31/27	255.255.255.248
18	192.168.3.32/27	192.168.3.33/27	192.168.3.62/27	192.168.3.63/27	255.255.255.248
19	192.168.3.64/27	192.168.3.65/27	192.168.3.94/27	192.168.3.95/27	255.255.255.248
20	192.168.3.96/27	192.168.3.97/27	192.168.3.126/27	192.168.3.127/27	255.255.255.248

Cisco Packet Tracer

Esquema



Muestra de las vlan del switch 1

Switch1

Physical Config CLI

IOS Command Line Interface

```
Switch1#show vlan
```

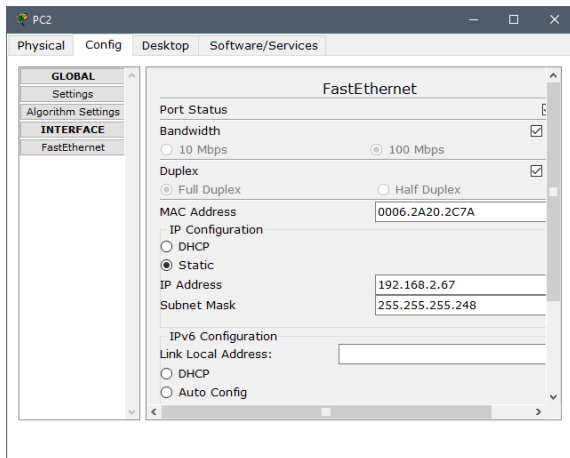
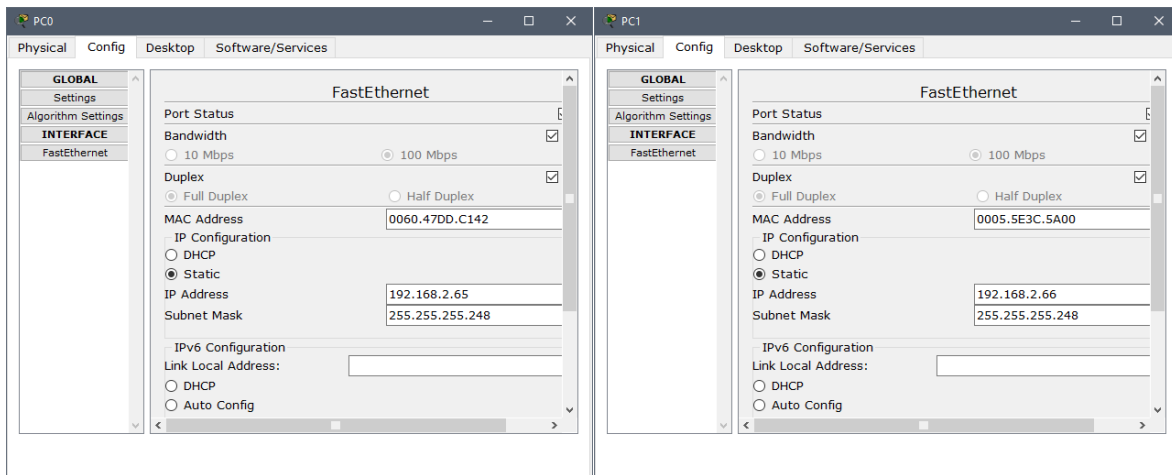
VLAN Name	Status	Ports
1 default	active	Fa0/3, Fa0/4, Fa0/5, Fa0/6 Fa0/7, Fa0/8, Fa0/9, Fa0/10 Fa0/11, Fa0/12, Fa0/13, Fa0/14 Fa0/15, Fa0/16, Fa0/17, Fa0/18 Fa0/19, Fa0/20, Fa0/21, Fa0/22 Fa0/23, Fa0/24
2 VLAN0002	active	Fa0/1
3 VLAN0003	active	Fa0/2
1002 fddi-default	act/unsup	
1003 token-ring-default	act/unsup	
1004 fddinet-default	act/unsup	
1005 trnet-default	act/unsup	

VLAN	Type	SAID	MTU	Parent	RingNo	BridgeNo	Stp	BrdgMode	Trans1	Trans2
1	enet	100001	1500	-	-	-	-	-	0	0
2	enet	100002	1500	-	-	-	-	-	0	0
3	enet	100003	1500	-	-	-	-	-	0	0
1002	fddi	101002	1500	-	-	-	-	-	0	0

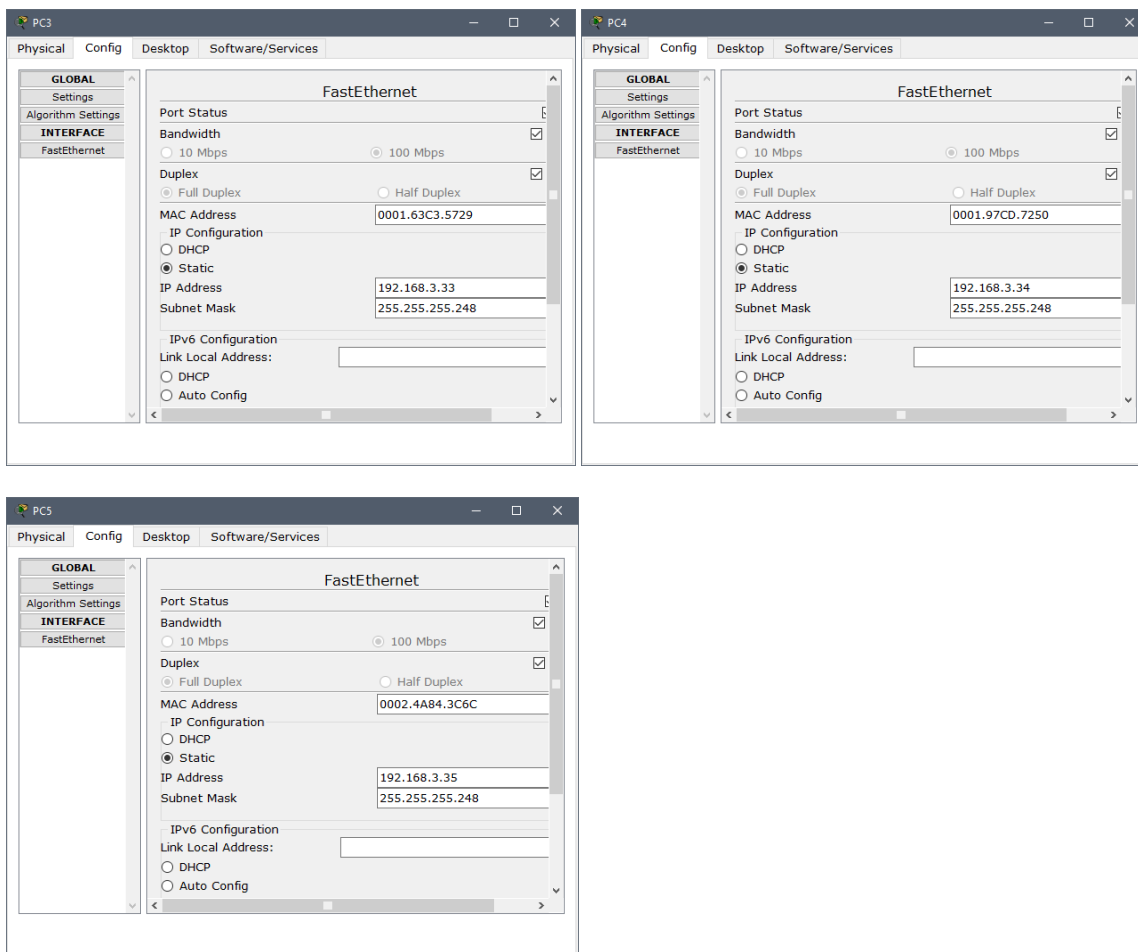
--More--

Copy Paste

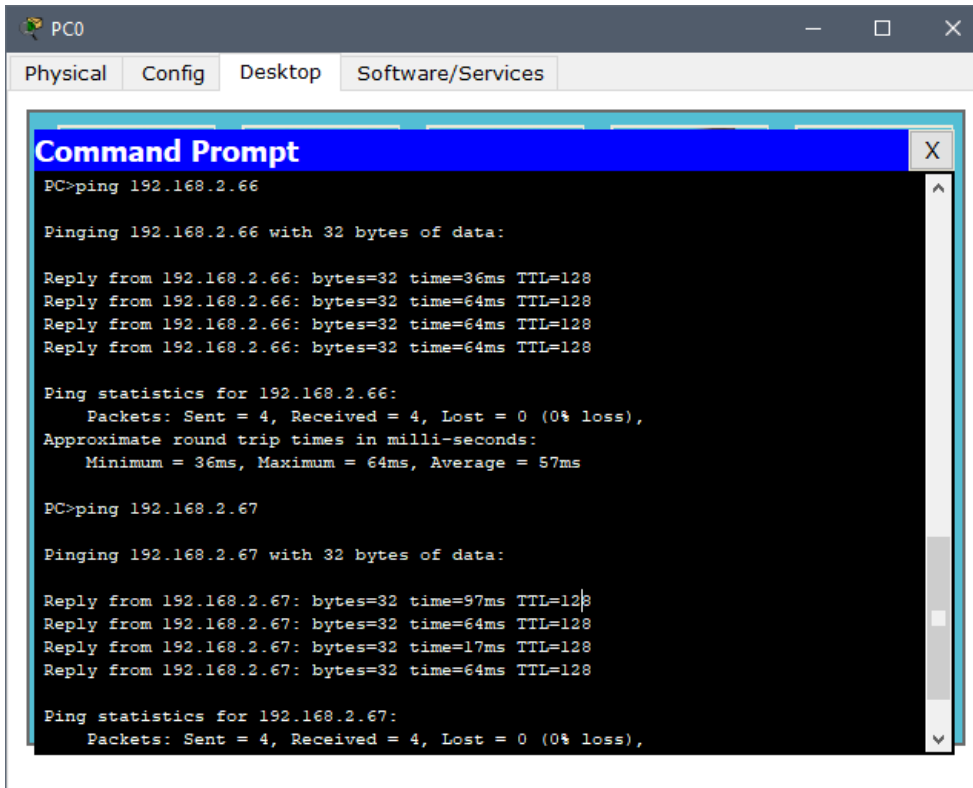
Configuración de la IP de las maquinas con el switch 0 que esta en la vlan 2 del switch 1



Configuración de la IP de las maquinas con el switch 2 que está en la vlan 3 del switch 1



Prueba de pings entre las maquinas con el switch 0



The screenshot shows the Command Prompt window for PC0. The window has tabs for Physical, Config, Desktop, and Software/Services. The Command Prompt title bar is blue with the text 'Command Prompt'. The output shows two ping commands being executed. The first ping is to 192.168.2.66, which returns four successful replies with times ranging from 36ms to 64ms. The second ping is to 192.168.2.67, which also returns four successful replies with times ranging from 17ms to 97ms. Both pings show 0% loss.

```
PC0
Physical Config Desktop Software/Services

Command Prompt
PC>ping 192.168.2.66

Pinging 192.168.2.66 with 32 bytes of data:

Reply from 192.168.2.66: bytes=32 time=36ms TTL=128
Reply from 192.168.2.66: bytes=32 time=64ms TTL=128
Reply from 192.168.2.66: bytes=32 time=64ms TTL=128
Reply from 192.168.2.66: bytes=32 time=64ms TTL=128

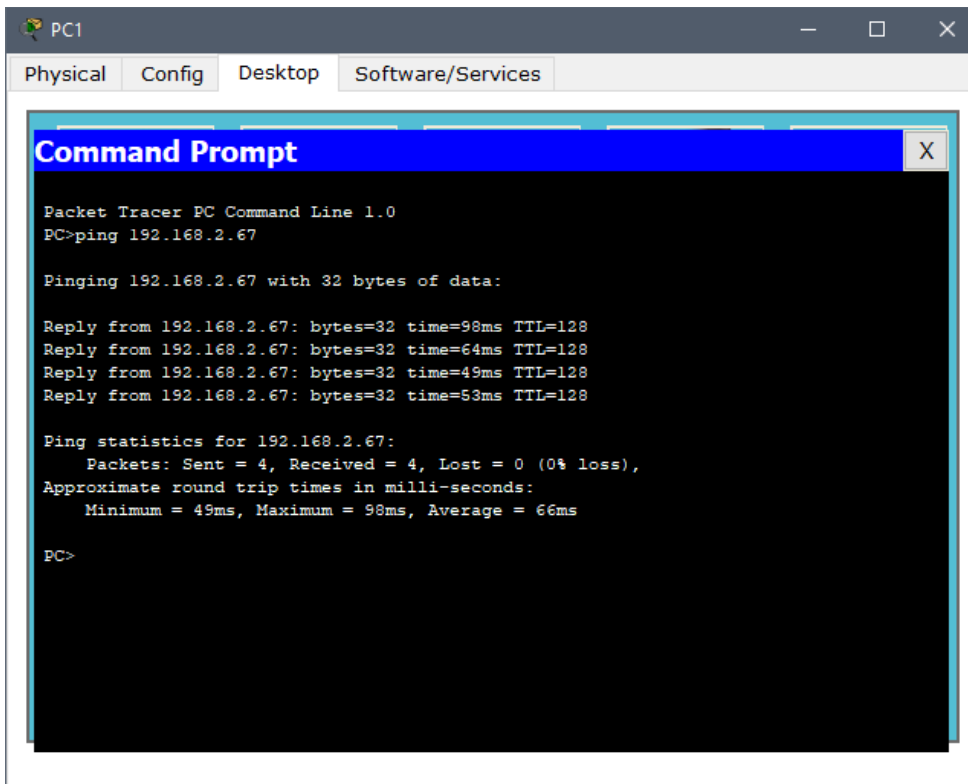
Ping statistics for 192.168.2.66:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 36ms, Maximum = 64ms, Average = 57ms

PC>ping 192.168.2.67

Pinging 192.168.2.67 with 32 bytes of data:

Reply from 192.168.2.67: bytes=32 time=97ms TTL=128
Reply from 192.168.2.67: bytes=32 time=64ms TTL=128
Reply from 192.168.2.67: bytes=32 time=17ms TTL=128
Reply from 192.168.2.67: bytes=32 time=64ms TTL=128

Ping statistics for 192.168.2.67:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
```



The screenshot shows the Command Prompt window for PC1. The window has tabs for Physical, Config, Desktop, and Software/Services. The Command Prompt title bar is blue with the text 'Command Prompt'. The output shows a single ping command being executed to 192.168.2.67. It returns four successful replies with times ranging from 49ms to 98ms. The ping shows 0% loss.

```
PC1
Physical Config Desktop Software/Services

Command Prompt
Packet Tracer PC Command Line 1.0
PC>ping 192.168.2.67

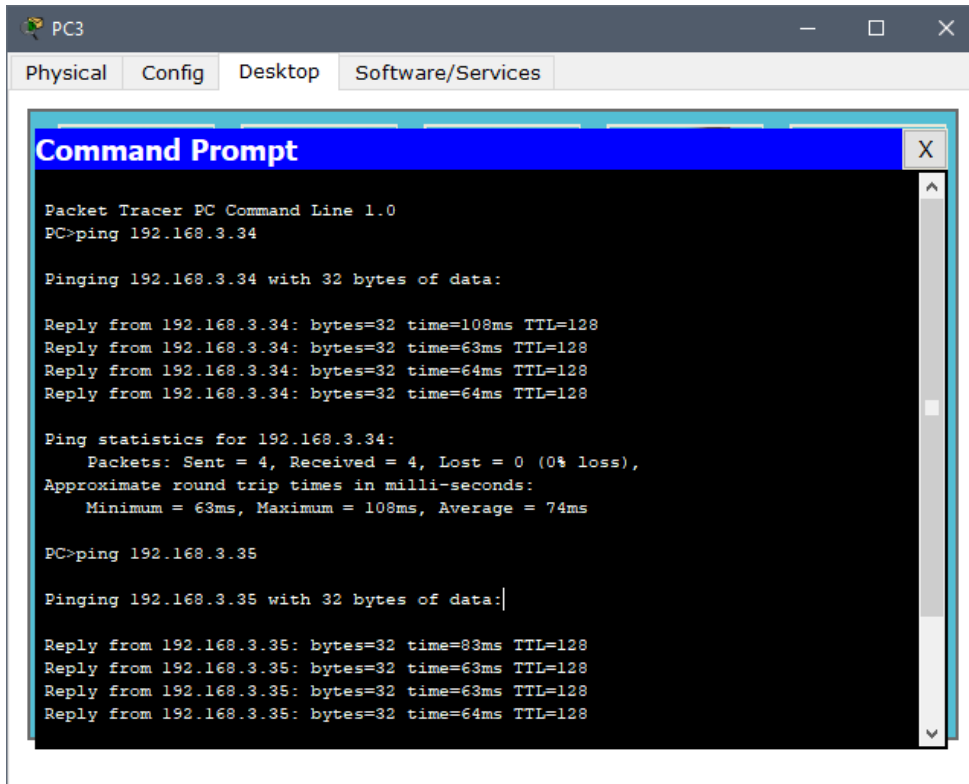
Pinging 192.168.2.67 with 32 bytes of data:

Reply from 192.168.2.67: bytes=32 time=98ms TTL=128
Reply from 192.168.2.67: bytes=32 time=64ms TTL=128
Reply from 192.168.2.67: bytes=32 time=49ms TTL=128
Reply from 192.168.2.67: bytes=32 time=53ms TTL=128

Ping statistics for 192.168.2.67:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 49ms, Maximum = 98ms, Average = 66ms

PC>
```

Prueba de pings entre las maquinas con el switch 2



PC3

Physical Config Desktop Software/Services

Command Prompt

```
Packet Tracer PC Command Line 1.0
PC>ping 192.168.3.34

Pinging 192.168.3.34 with 32 bytes of data:

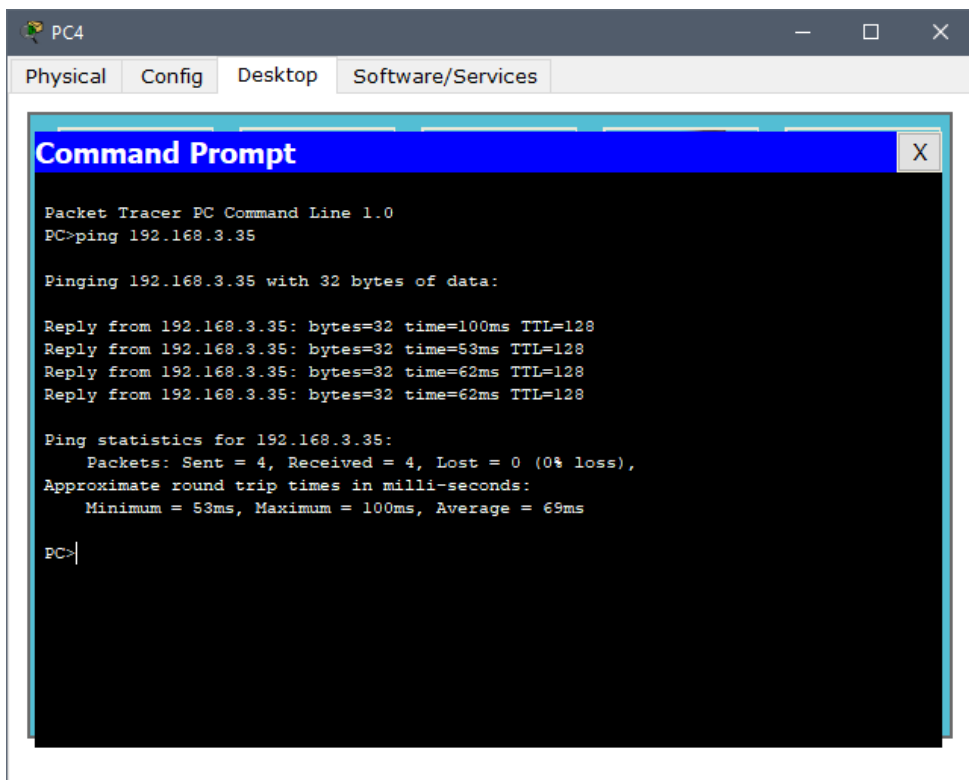
Reply from 192.168.3.34: bytes=32 time=108ms TTL=128
Reply from 192.168.3.34: bytes=32 time=63ms TTL=128
Reply from 192.168.3.34: bytes=32 time=64ms TTL=128
Reply from 192.168.3.34: bytes=32 time=64ms TTL=128

Ping statistics for 192.168.3.34:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 63ms, Maximum = 108ms, Average = 74ms

PC>ping 192.168.3.35

Pinging 192.168.3.35 with 32 bytes of data:|

Reply from 192.168.3.35: bytes=32 time=83ms TTL=128
Reply from 192.168.3.35: bytes=32 time=63ms TTL=128
Reply from 192.168.3.35: bytes=32 time=63ms TTL=128
Reply from 192.168.3.35: bytes=32 time=64ms TTL=128
```



PC4

Physical Config Desktop Software/Services

Command Prompt

```
Packet Tracer PC Command Line 1.0
PC>ping 192.168.3.35

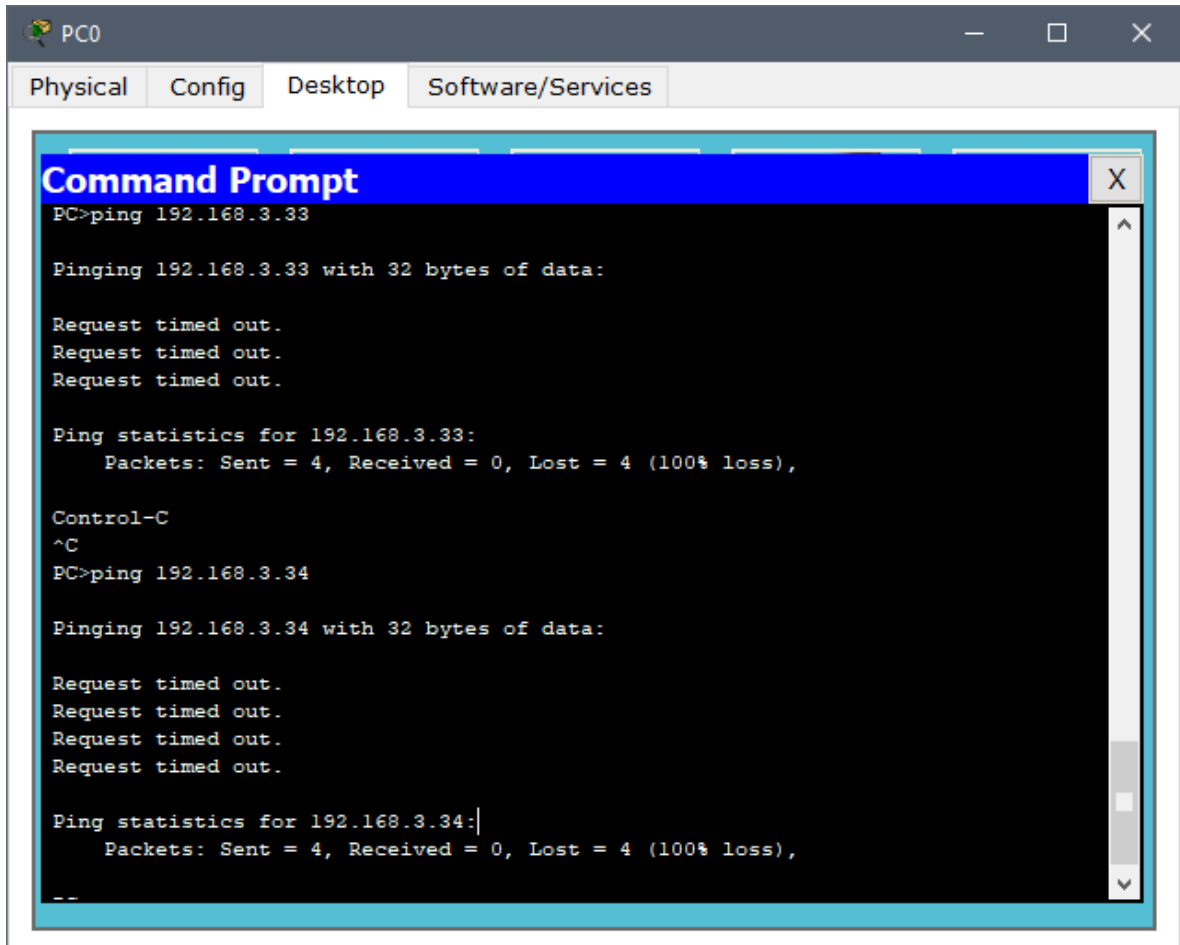
Pinging 192.168.3.35 with 32 bytes of data:

Reply from 192.168.3.35: bytes=32 time=100ms TTL=128
Reply from 192.168.3.35: bytes=32 time=53ms TTL=128
Reply from 192.168.3.35: bytes=32 time=62ms TTL=128
Reply from 192.168.3.35: bytes=32 time=62ms TTL=128

Ping statistics for 192.168.3.35:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 53ms, Maximum = 100ms, Average = 69ms

PC>|
```

Prueba de pings entre las maquinas del switch 0 y switch 2



The screenshot shows a window titled "PC0" with tabs for "Physical", "Config", "Desktop", and "Software/Services". The "Desktop" tab is active, displaying a "Command Prompt" window. The Command Prompt has a blue title bar and a black background with white text. It shows the execution of two ping commands from PC0. The first command is "ping 192.168.3.33", which results in three "Request timed out." messages and a summary showing 100% loss. The second command is "ping 192.168.3.34", which also results in three "Request timed out." messages and a summary showing 100% loss. A "Control-C" interrupt is shown between the two commands.

```
PC0>ping 192.168.3.33

Pinging 192.168.3.33 with 32 bytes of data:

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

Ping statistics for 192.168.3.33:
    Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),

Control-C
^C
PC0>ping 192.168.3.34

Pinging 192.168.3.34 with 32 bytes of data:

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

Ping statistics for 192.168.3.34:
    Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),

--
```