

ACTIVIDAD 1º TRIMESTRE: PLANIFICACIÓN DE REDES.

ESTUDIANTE: MARIA DE LOS ANGELES MARTINEZ NAVIA

1º ASIR.

1º PARTE

RED: 192.168.1.0 --> CLASE C /24

- **MASCARA DE RED:** 255.255.255.0
- **DIRECCION DE RED:** 192.168.1.0
- **DIRECCION DE BROADCAST:** 192.168.1.255
- **DIRECCION ASIGNABLE DE HOST:** 192.168.1.1 A 192.168.1.254
- **MAXIMA DE HOST ASIGNABLES:** $2^8-2=254$ host máximos

Ahora que ya tengo información general de la red dada, se me piden **8 SUBREDES UTILIZABLES**, por ello debo de tomar algunos BITS del HOST:

De los 8 BITS del Host, tomaremos 3: porque $2^3=8$, suficiente para las 8 subredes que me piden

- **NUEVA MASCARA:** $/24+3=27$ (Mascara anterior+ host tomados= nueva mascara). Visualmente:

11111111.11111111.11111111.00000000 -----> 11111111.11111111.11111111.11100000

DECIMAL: 255.255.255.224

PREFIJO: /27

- **HOST ASIGNABLES:** Sobraron 5 BITS del HOST por ello $2^5-2=30$ Host asignables

CALCULO DE SALTO: $256-224=32$

SUBRED	DIRECCIÓN DE RED	IP INICIAL	IP FINAL	BROADCAST
1	192.168.1.0	192.168.1.1	192.168.1.30	192.168.1.31
2	192.168.1.32	192.168.1.33	192.168.1.62	192.168.1.63
3	192.168.1.64	192.168.1.65	192.168.1.94	192.168.1.95
4	192.168.1.96	192.168.1.97	192.168.1.126	192.168.1.127
5	192.168.1.128	192.168.1.129	192.168.1.158	192.168.1.159
6	192.168.1.160	192.168.1.161	192.168.1.190	192.168.1.191
7	192.168.1.192	192.168.1.193	192.168.1.222	192.168.1.223
8	192.168.1.224	192.168.1.225	192.168.1.254	192.168.1.255

2DA PARTE (CPT)

Equivalent IOS Commands

```
Router>enable
Router#
Router#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#interface GigabitEthernet0/0
Router(config-if)#ip address 192.168.1.1 255.255.255.0
Router(config-if)#ip address 192.168.1.1 255.255.255.224
Router(config-if)#no shutdown
Router(config-if)#
%LINK-5-CHANGED: Interface GigabitEthernet0/0, changed state to up
```

COMANDO DE CLI DE ROUTER

COMPROBACION EN PING

The image displays two screenshots of a PC0 interface in Cisco Packet Tracer, showing the results of ping tests. The interface includes tabs for Physical, Config, Desktop, Programming, and Attributes. The Command Prompt window shows the following output:

PC0 --> PC1

```
Cisco Packet Tracer PC Command Line 1.0
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<1ms TTL=128
Reply from 192.168.1.3: bytes=32 time<1ms TTL=128
Reply from 192.168.1.3: bytes=32 time<1ms TTL=128
Reply from 192.168.1.3: bytes=32 time=1ms 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 = 0ms, Maximum = 1ms, Average = 0ms

C:\>
```

PC0 --> ROUTER

```
Cisco Packet Tracer PC Command Line 1.0
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<1ms TTL=128
Reply from 192.168.1.3: bytes=32 time<1ms TTL=128
Reply from 192.168.1.3: bytes=32 time<1ms TTL=128
Reply from 192.168.1.3: bytes=32 time=1ms 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 = 0ms, Maximum = 1ms, Average = 0ms

C:\> ping 192.168.1.1

Pinging 192.168.1.1 with 32 bytes of data:

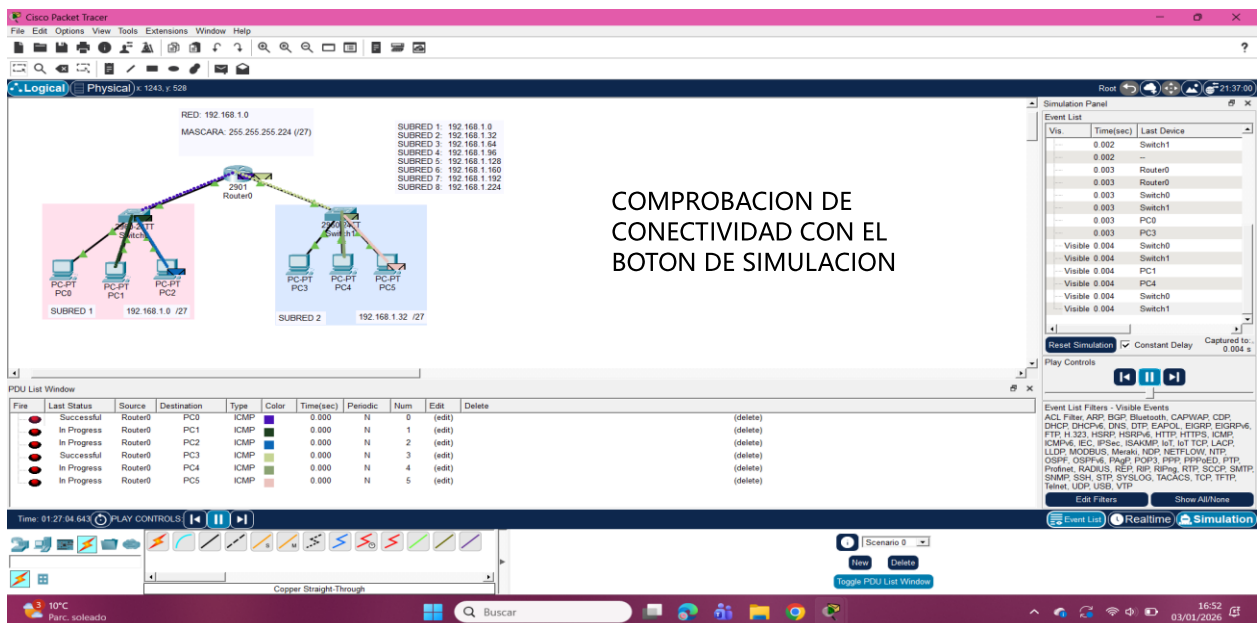
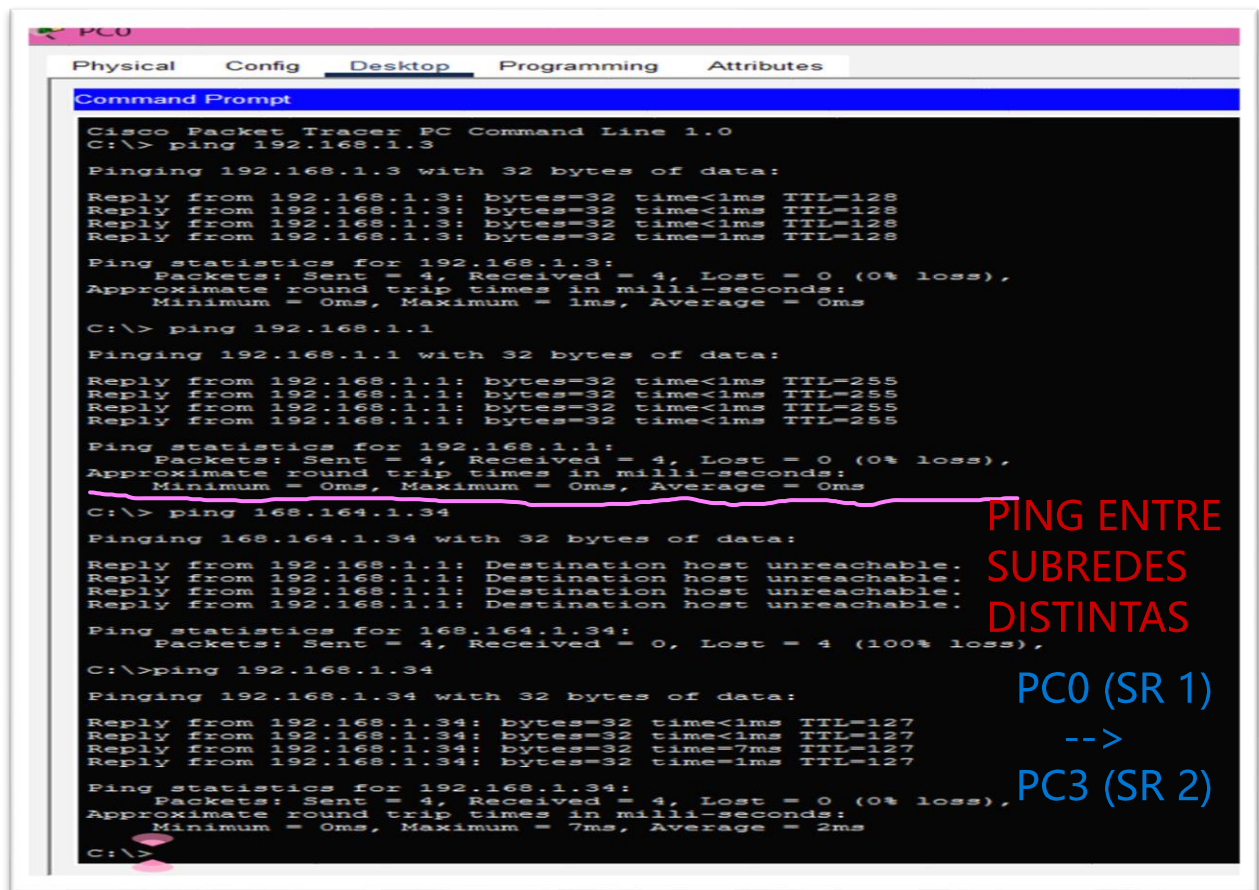
Reply from 192.168.1.1: bytes=32 time<1ms TTL=255
Reply from 192.168.1.1: bytes=32 time<1ms TTL=255
Reply from 192.168.1.1: bytes=32 time<1ms TTL=255
Reply from 192.168.1.1: bytes=32 time<1ms TTL=255

Ping statistics for 192.168.1.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\>
```

**PING ENTRE
HOST DE LA
MISMA
SUBRED**

**PING A LAS
PUERTAS DE
ENLACE**



Primeramente he desglosado la red 192.168.1.0, determinando que era CLASE C con mascara /24, mascara de red, direcci3n de red, direcci3n de broadcast, direcci3n y m3ximos de host. Al tener determinar la red principal, pase a realizar lo pedido a 8 SUBREDES UTILIZABLES. Por ello, hice el proceso de tomar BITS del HOST (3), como consecuencia, la mascara se ha convertido en /27 (255.255.255.224). Luego he calculado el salto para realizar la tabla (256-224=32). Seguido de la tabla he podido empezar con CISCO, insertando ROUTER, 2 SWITCH (ya que he demostrado 2 subredes) y 3 PC en cada subred. He empezado con la asignaci3n de IP en ROUTER y PC. Luego he hecho la comprobaci3n en PING y en el simulador del programa.