

Laboratorio: Configuración de redes TCP IPv4 (VLSM)

Este documento contiene el desarrollo paso a paso del laboratorio de configuración de redes TCP IPv4.

GitHub Laboratorio. PKT=

https://github.com/LeoR22/Universidad/tree/main/Redes_datos/Lab_1

A — Cálculos de Subredes (VLSM)

1) Subred para ~1800 hosts

- Hosts requeridos: 1800
- Bits de host necesarios: 11 ($2^{11} = 2048 \rightarrow 2046$ usables)
- Prefijo resultante: /21
- Máscara: 255.255.248.0
- Dirección de red: 30.30.192.0/21
- Broadcast: 30.30.199.255
- Rango usable: 30.30.192.1 – 30.30.199.254
- Gateway asignado: 30.30.192.1
- Primera PC: 30.30.192.2
- Última PC: 30.30.199.254

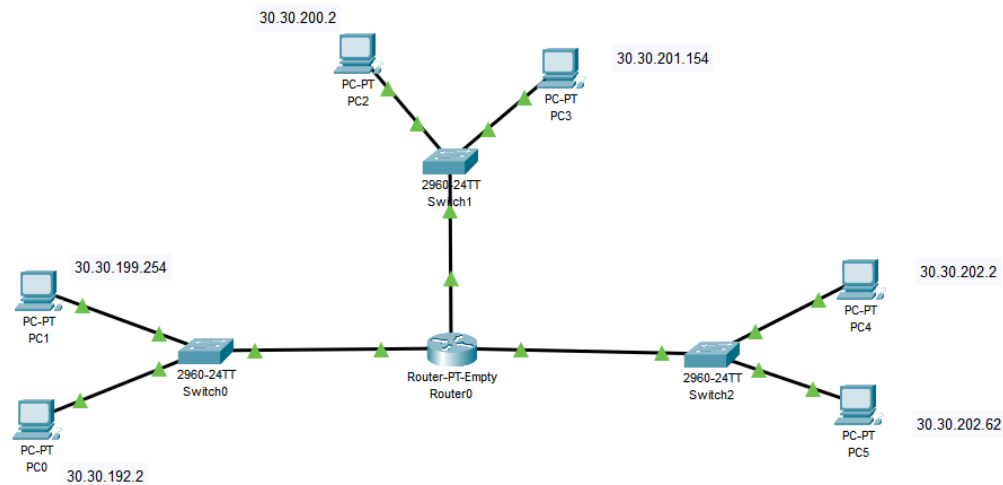
2) Subred para ~420 hosts

- Hosts requeridos: 420
- Bits de host necesarios: 9 ($2^9 = 512 \rightarrow 510$ usables)
- Prefijo resultante: /23
- Máscara: 255.255.254.0
- Dirección de red: 30.30.200.0/23
- Broadcast: 30.30.201.255
- Rango usable: 30.30.200.1 – 30.30.201.254
- Gateway asignado: 30.30.200.1
- Primera PC: 30.30.200.2
- Última PC: 30.30.201.254

3) Subred para ~32 hosts

- Hosts requeridos: 32
- Bits de host necesarios: 6 ($2^6 = 64 \rightarrow 62$ usables)
- Prefijo resultante: /26
- Máscara: 255.255.255.192
- Dirección de red: 30.30.202.0/26
- Broadcast: 30.30.202.63
- Rango usable: 30.30.202.1 – 30.30.202.62

- Gateway asignado: 30.30.202.1
- Primera PC: 30.30.202.2
- Última PC: 30.30.202.62



Device Name: Router0				
Device Model: Router-PT-Empty				
Hostname: Router				
Port	Link	IP Address	IPv6 Address	MAC Address
FastEthernet0/0	Up	30.30.192.1/21	<not set>	0006.2A4B.350D
FastEthernet1/0	Up	30.30.200.1/23	<not set>	0040.0B38.E501
FastEthernet2/0	Up	30.30.202.1/26	<not set>	0003.E4D8.5B42
Physical Location: Intercity > Home City > Corporate Office > Main Wiring Closet > Rack > Router0				

PC0

Physical Config Desktop Programming Attributes

Command Prompt

```

C:\>ping 30.30.200.2

Pinging 30.30.200.2 with 32 bytes of data:

Reply from 30.30.200.2: bytes=32 time<lms TTL=127
Reply from 30.30.200.2: bytes=32 time<lms TTL=127
Reply from 30.30.200.2: bytes=32 time<lms TTL=127
Reply from 30.30.200.2: bytes=32 time<lms TTL=127

Ping statistics for 30.30.200.2:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\>ping 30.30.202.2

Pinging 30.30.202.2 with 32 bytes of data:

Reply from 30.30.202.2: bytes=32 time<lms TTL=127
Reply from 30.30.202.2: bytes=32 time<lms TTL=127
Reply from 30.30.202.2: bytes=32 time<lms TTL=127
Reply from 30.30.202.2: bytes=32 time<lms TTL=127

Ping statistics for 30.30.202.2:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms
  
```