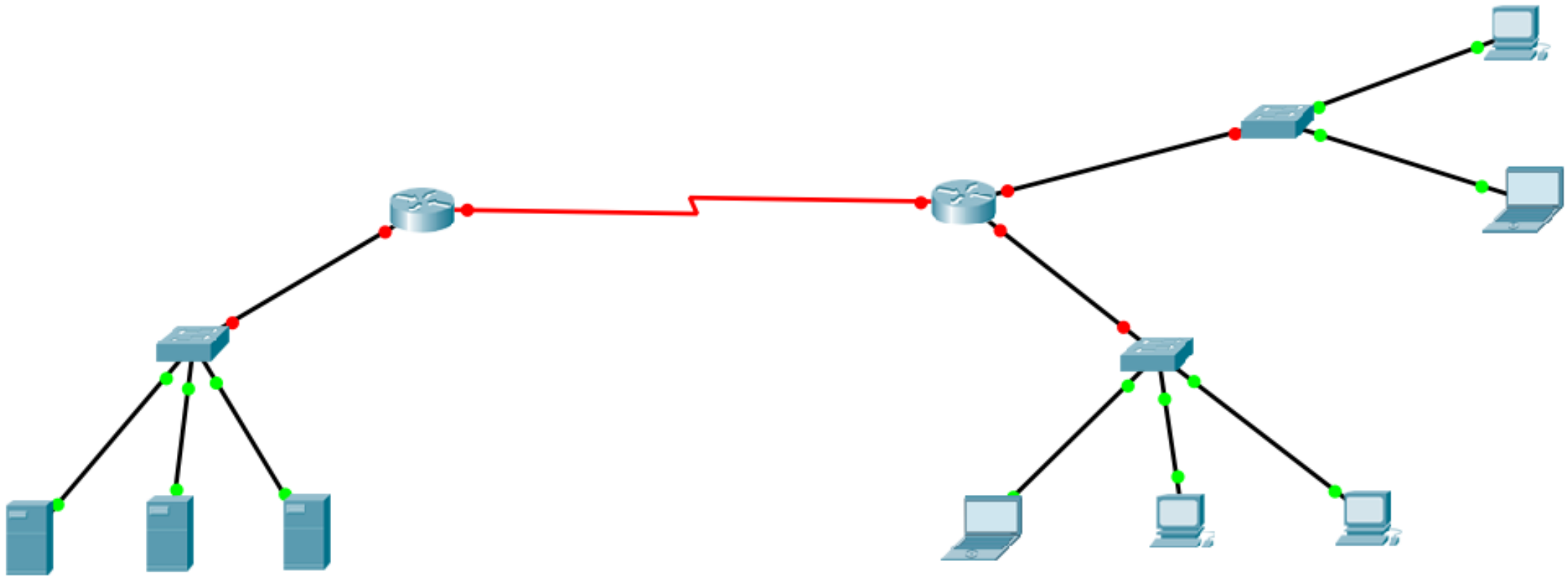
IP ADDRESS

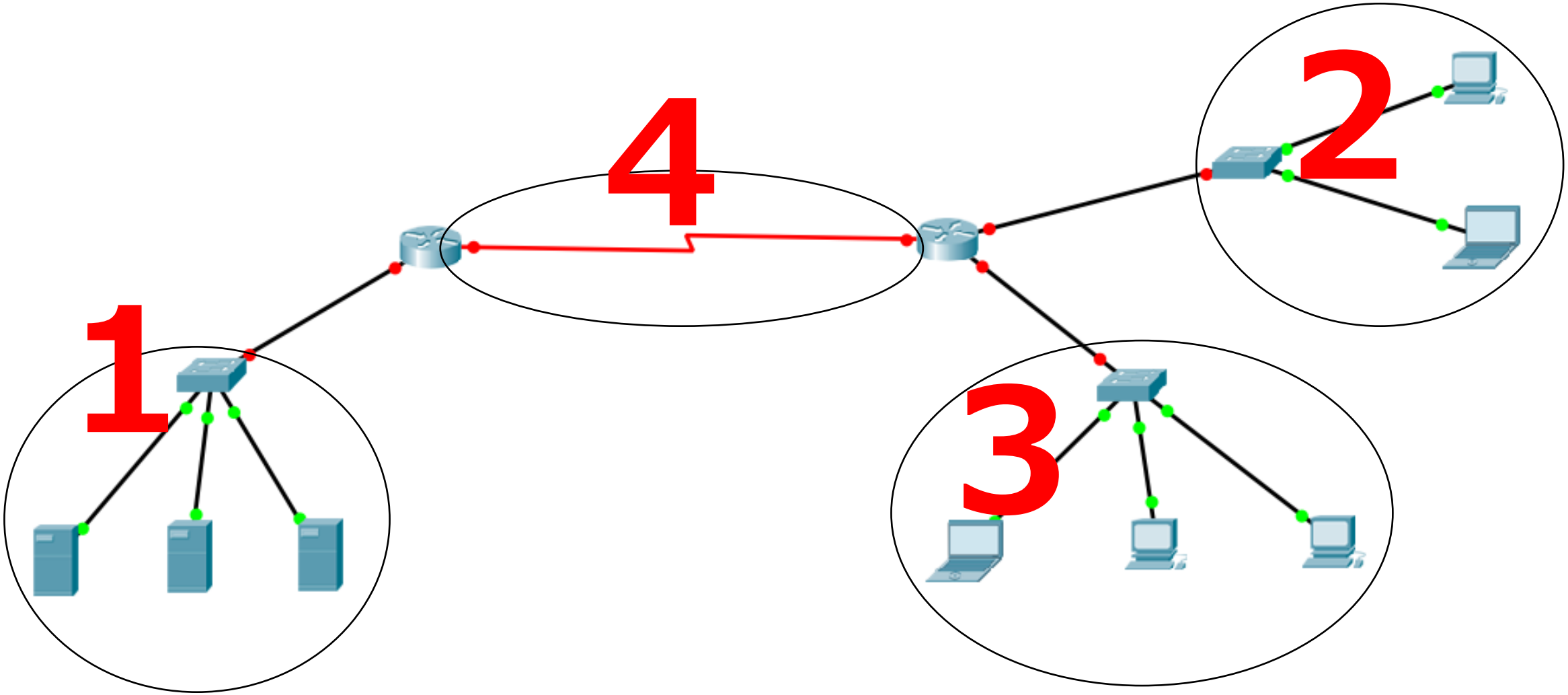
VLSM

P. SuLAiMAn

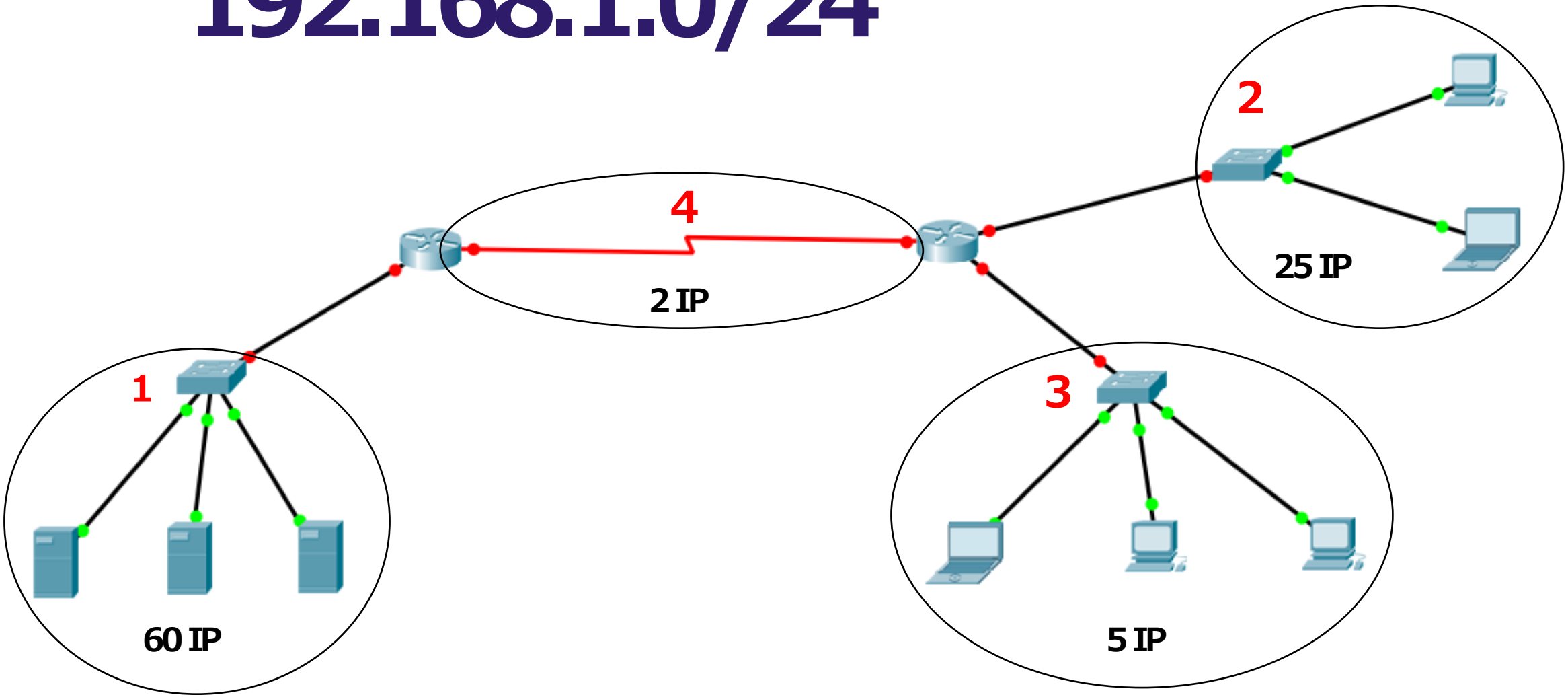
Network = ?



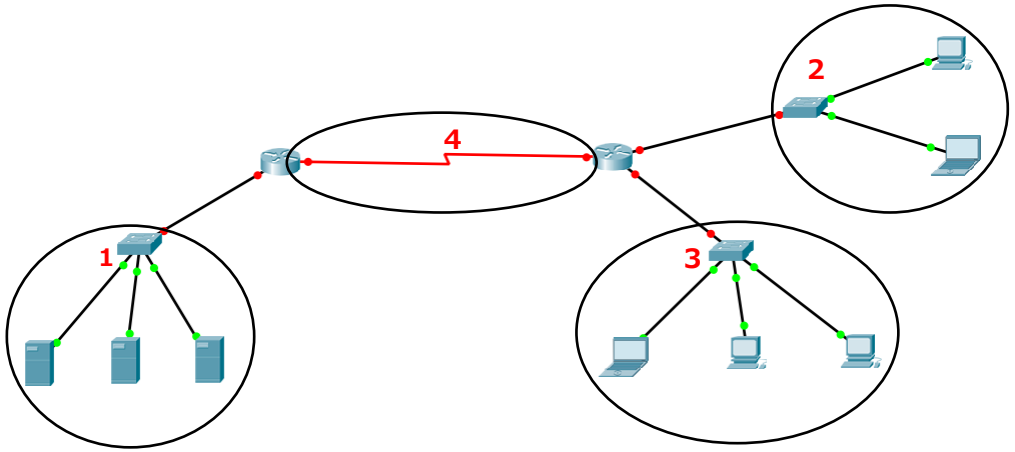
Network = 4



192.168.1.0/24



192.168.1.0/24



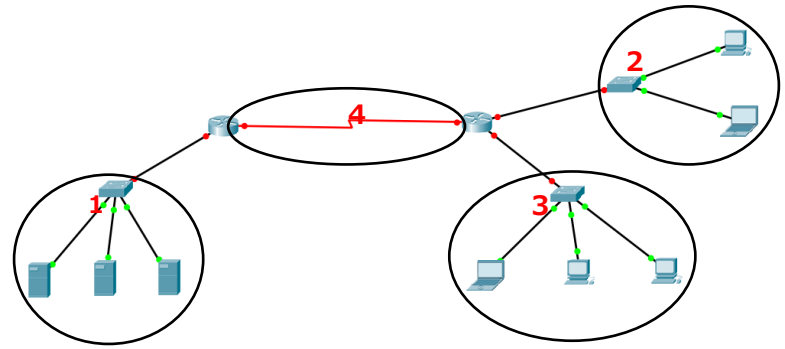
Network #1 : $2^n - 2 >= 60$ Host

Network #2 : $2^n - 2 >= 25$ Host

Network #3 : $2^n - 2 >= 5$ Host

Network #4 : $2^n - 2 >= 2$ Host

192.168.1.0/24



Network #1 : $2^n - 2 >= 60$ Host

$2^n - 2 >= 60$ Host >> n = 6 ; $2^6 - 2 = 64 - 2$

1 1 1 1 1 1 1 1.1 1 1 1 1 1 1 1.1 1 1 1 1 1 1 1.1 1 **1 1 1 1 1 1**

192.168.1.0 0 / 0 0 0 0 0 0 >> 0 = 192.168.1.0 (Network)

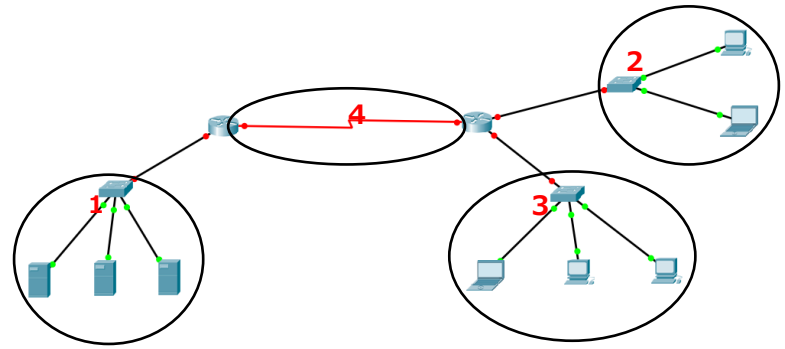
192.168.1.0 0 / 0 0 0 0 0 1 >> 1 = 192.168.1.1 (Min-Host)

192.168.1.0 0 / . . . . . .

192.168.1.0 0 / 1 1 1 1 1 0 >> 62 = 192.168.1.62 (Max-Host)

192.168.1.0 0 / 1 1 1 1 1 1 >> 63 = 192.168.1.63 (Broadcast)

192.168.1.0/24



Network #1 : $2^n - 2 >= 60$ Host

$2^n - 2 : n = 6 ; 2^6 - 2 = 64 - 2$

`1 1 1 1 1 1 1 1.1 1 1 1 1 1 1 1.1 1 1 1 1 1 1 1.1 1 1 1 1 1 1`

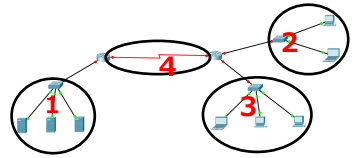
Network #1 :

IP Address = 192.168.1.0 – 192.168.1.63

Subnetmask = /26 (CIDR); = 255.255.255.192

192.168.1.0/24

X 0 – 63
/ 64 - 255



Network #2 : $2^n - 2 >= 25$ Host

$n = 5 ; 2^5 - 2 = 32 - 2$

1 1 1 1 1 1 1 1.1 1 1 1 1 1 1 1.1 1 1 1 1 1 1 1.1 1 1 **1 1 1 1 1**

192.168.1.0 1 0 / 0 0 0 0 0 >> 64 = 192.168.1.64 (Network)

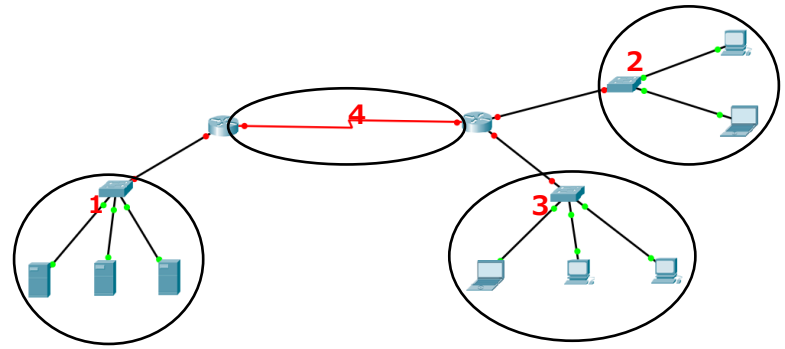
192.168.1.0 1 0 / 0 0 0 0 1 >> 65 = 192.168.1.65 (Min-Host)

192.168.1.0 1 0 / . . . . . .

192.168.1.0 1 0 / 1 1 1 1 0 >> 94 = 192.168.1.94 (Max-Host)

192.168.1.0 1 0 / 1 1 1 1 1 >> 95 = 192.168.1.95 (Broadcast)

192.168.1.0/24



Network #2 : $2^n - 2 >= 60$ Host

$2^n - 2 : n = 5 ; 2^5 - 2 = 32 - 2$

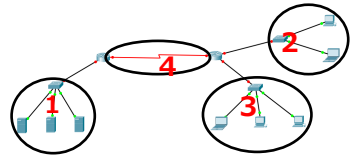
`11111111.11111111.11111111.111` **11111**

Network #2 :

IP Address = 192.168.1.64 – 192.168.1.95
Subnetmask = /27 (CIDR); **= x.x.x.x**

192.168.1.0/24

X 0 – 63
X 64 - 95
/ 96 - 255



Network #3 : $2^n - 2 >= 5$ Host

$n = 3 ; 2^3 - 2 = 8 - 2$

1 1 1 1 1 1 1 1.1 1 1 1 1 1 1 1.1 1 1 1 1 1 1 1.1 1 1 1 1 **1 1 1**

192.168.1.0 1 1 0 0 / 0 0 0 >> 96 = 192.168.1.96 (Network)

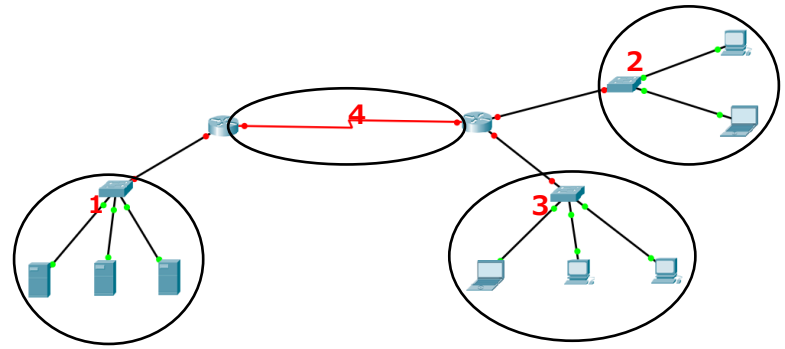
192.168.1.0 1 1 0 0 / 0 0 1 >> 97 = 192.168.1.97 (Min-Host)

192.168.1.0 1 1 0 0 / . . . . . .

192.168.1.0 1 1 0 0 / 1 1 0 >> 102 = 192.168.1.102 (Max-Host)

192.168.1.0 1 1 0 0 / 1 1 1 >> 103 = 192.168.1.103 (Broadcast)

192.168.1.0/24



Network #3 : $2^n - 2 >= 60$ Host

$2^n - 2 : n = 3 ; 2^3 - 2 = 8 - 2$

`1 1 1 1 1 1 1 1.1 1 1 1 1 1 1 1.1 1 1 1 1 1 1 1.1 1 1 1 1 1 1 1` **1 1 1**

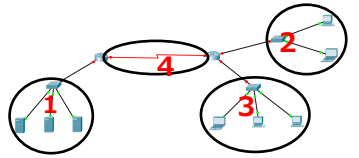
Network #3 :

IP Address = 192.168.1.96 – 192.168.1.103

Subnetmask = /29 (CIDR); **= x.x.x.x**

192.168.1.0/24

X 0 – 63
X 64 – 95
X 96 - 103
/ 104 - 255



Network #4 : $2^n - 2 >= 2$ Host

$n = 2 ; 2^2 - 2 = 4 - 2$

1 1 1 1 1 1 1 1.1 1 1 1 1 1 1 1.1 1 1 1 1 1 1 1.1 1 1 1 1 1 1 1

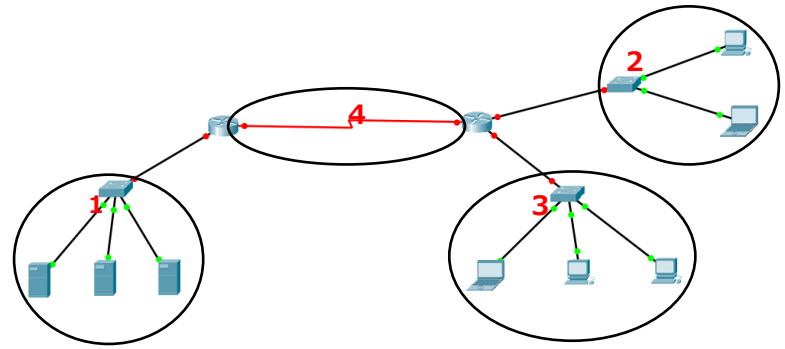
192.168.1.0 1 1 0 1 0 / 0 0 >> 104 = 192.168.1.104 (Network)

192.168.1.0 1 1 0 1 0 / 0 1 >> 105 = 192.168.1.105 (Min-Host)

192.168.1.0 1 1 0 1 0 / 1 0 >> 106 = 192.168.1.106 (Max-Host)

192.168.1.0 1 1 0 1 0 / 1 1 >> 107 = 192.168.1.107 (Broadcast)

192.168.1.0/24



Network #4 : $2^n - 2 >= 60$ Host

$2^n - 2 : n = 2 ; 2^2 - 2 = 4 - 2$

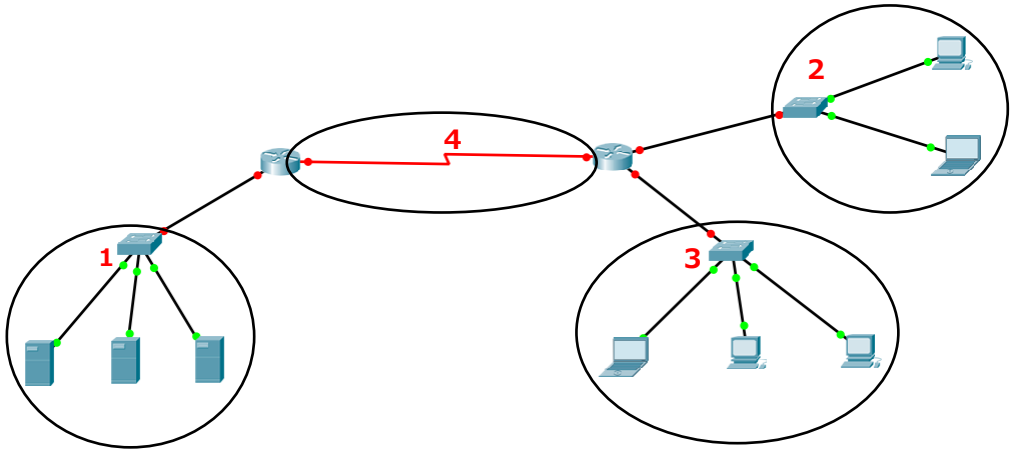
```
1 1 1 1 1 1 1 1.1 1 1 1 1 1 1 1.1 1 1 1 1 1 1 1.1 1 1 1 1 1 1 1 1 1
```

Network #4 :

IP Address = 192.168.1.104 – 192.168.1.107

Subnetmask = /30 (CIDR); = x.x.x.x

192.168.1.0/24



Network #1 : 192.168.1.0 – 192.168.1.63 /26

Network #2 : 192.168.1.64 – 192.168.1.95 /27

Network #3 : 192.168.1.96 – 192.168.1.103 /29

Network #4 : 192.168.1.104 – 192.168.1.107 /30

192.168.1.0/24

Network = 4

Network #2 : 192.168.1.64 – 192.168.1.95 /27

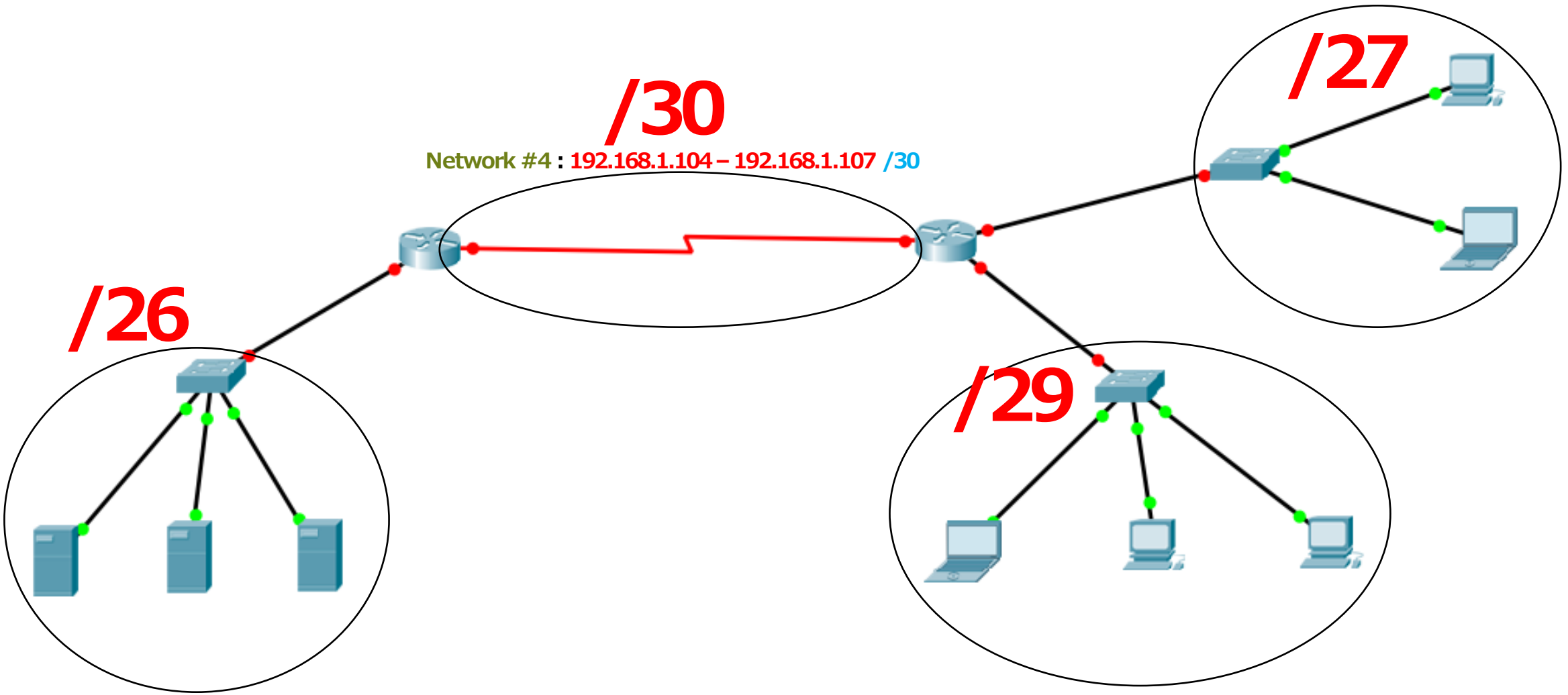
/27

/30

Network #4 : 192.168.1.104 – 192.168.1.107 /30

/26

/29



Network #1 : 192.168.1.0 – 192.168.1.63 /26

Network #3 : 192.168.1.96 – 192.168.1.103 /29