

UD11. Internet

Layer TC02

Desarrollo de Aplicaciones Web
1er Curso

Curso 2020-2021

Autor: Vicent Bosch

vicent.bosch@ceedcv.es



Reconocimiento - NoComercial - CompartirIgual (by-nc-sa): No se permite un uso comercial de la obra original ni de las posibles obras derivadas, la distribución de las cuales se debe hacer con una licencia igual a la que regula la obra original.

Esta obra esta sujeta a la Licencia Reconocimiento-NoComercial-CompartirIgual 4.0 Internacional de Creative Commons. Para ver una copia de esta licencia, visite <http://creativecommons.org/licenses/by-nc-sa/4.0/> o envíe una carta Creative Commons, PO Box 1866, Mountain View, CA 94042, USA.

Internet layer

1. IP Address v4
2. Network Mask
3. Classes of IP address
4. Public and private addresses
5. Subnetting

IP Address v4

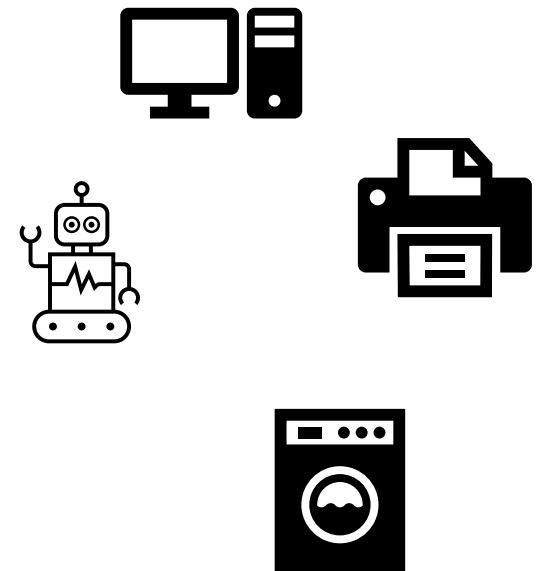
4 parts (octets).

1 byte each octet.

Total=32 bits

129.170.1.56

10000001.10101010.00000001.00111000



Network Mask

Used to divide an IP address into two parts:

- the host (computer, printer, etc)
- the network to which it belongs

192.168.23.45 AND **255.255.255.0** (bit per bit) = 192.168.23.0

Therefore, **192.168.23.45**

network id **host id**

Network Mask: CIDR notation

Number of ones, from MSB to LSB

- **/24** → 255.255.255.0
- **/11** → 11111111.11100000.00000000.00000000 →
255.224.0.0
- **/25** → 255.255.255.10000000 → 255.255.255.128

Network Mask. Perform the and operation.

123.199.23.1

255.255.224.0

80.90.100.110

255.128.0.0

200.64.32.8

255.255.255.128

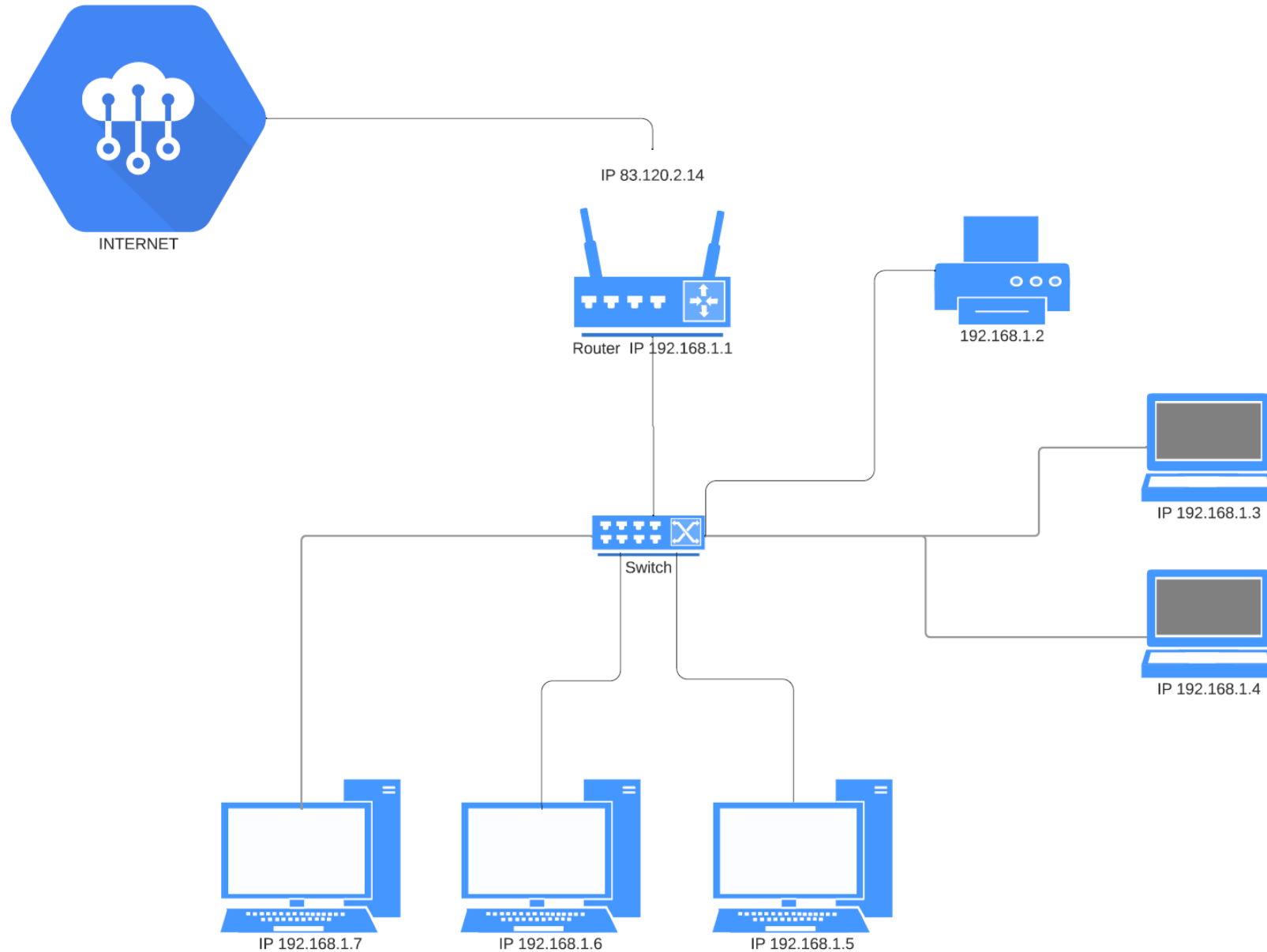
Classes of IP

Class A networks, default subnet mask of 255.0.0.0 (/8), and have 0-127 as their first octet

Class B networks, default subnet mask of 255.255.0.0 (/16), and have 128-191 as their first octet.

Class C networks, default subnet mask of 255.255.255.0 (/24), and have 192-223 as their first octet.

Private and public IP addresses

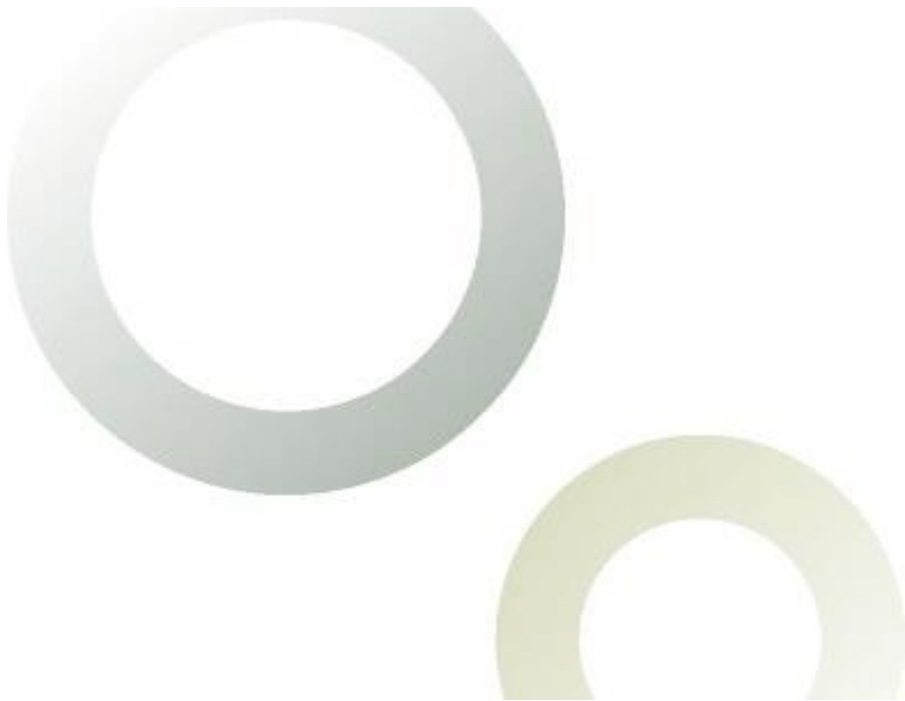


Subnetting

- ISP provider assigns the network address 192.168.32.0.
- We need to divide it into 2 subnets.



Subnetting



Examples



Examples

