

Redes: Introducción, conceptos y práctica

Aula 1: La Red

Introducción



Aula 1: La Red

Definición de Red







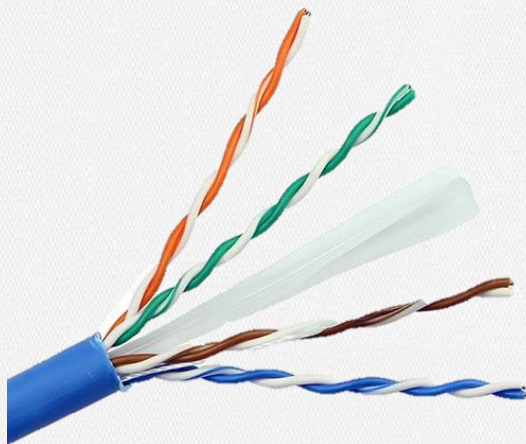




Aula 2: DNS, Hubs y conexiones

Cables de conexión

ANSI TIA 568

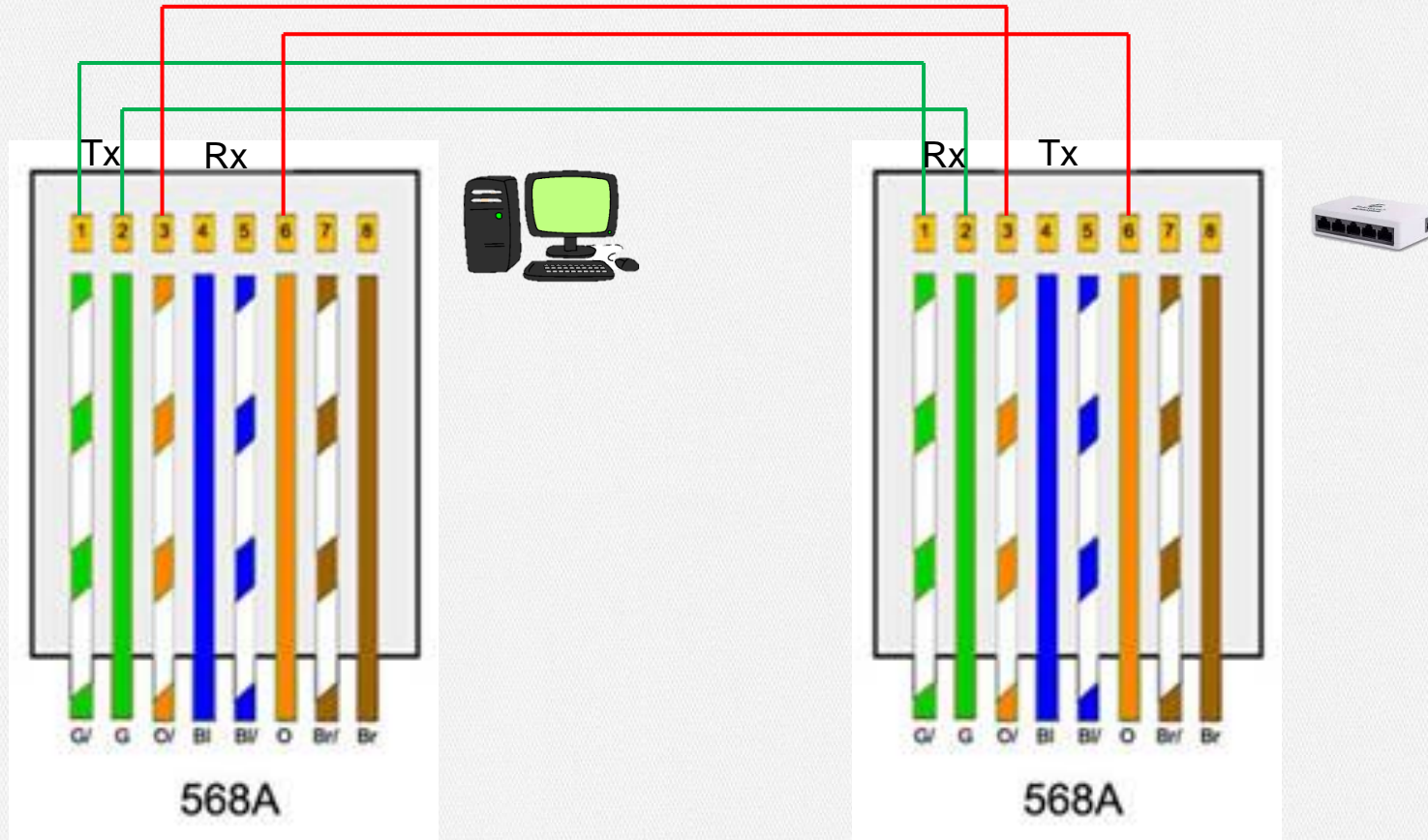


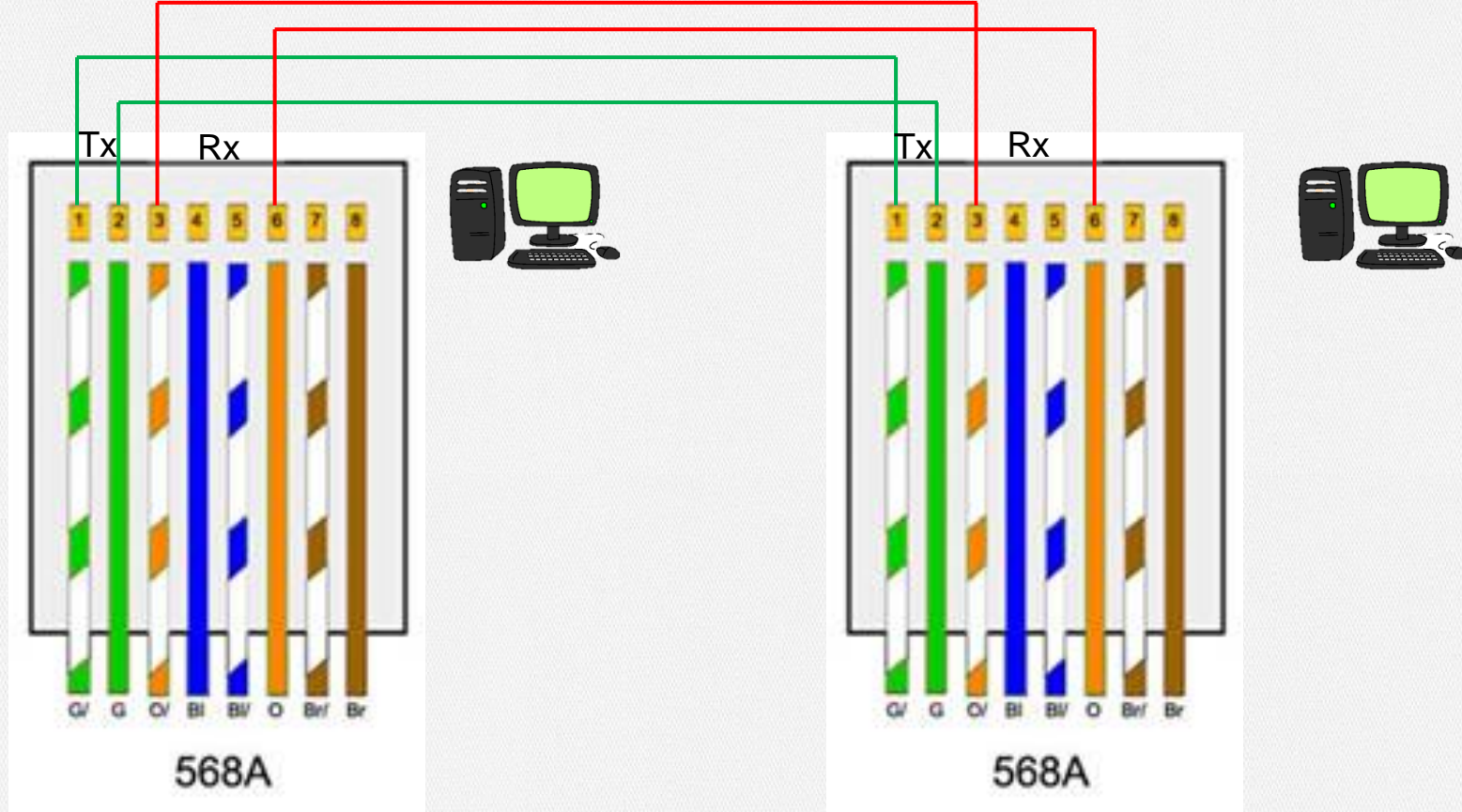
Cable UTP

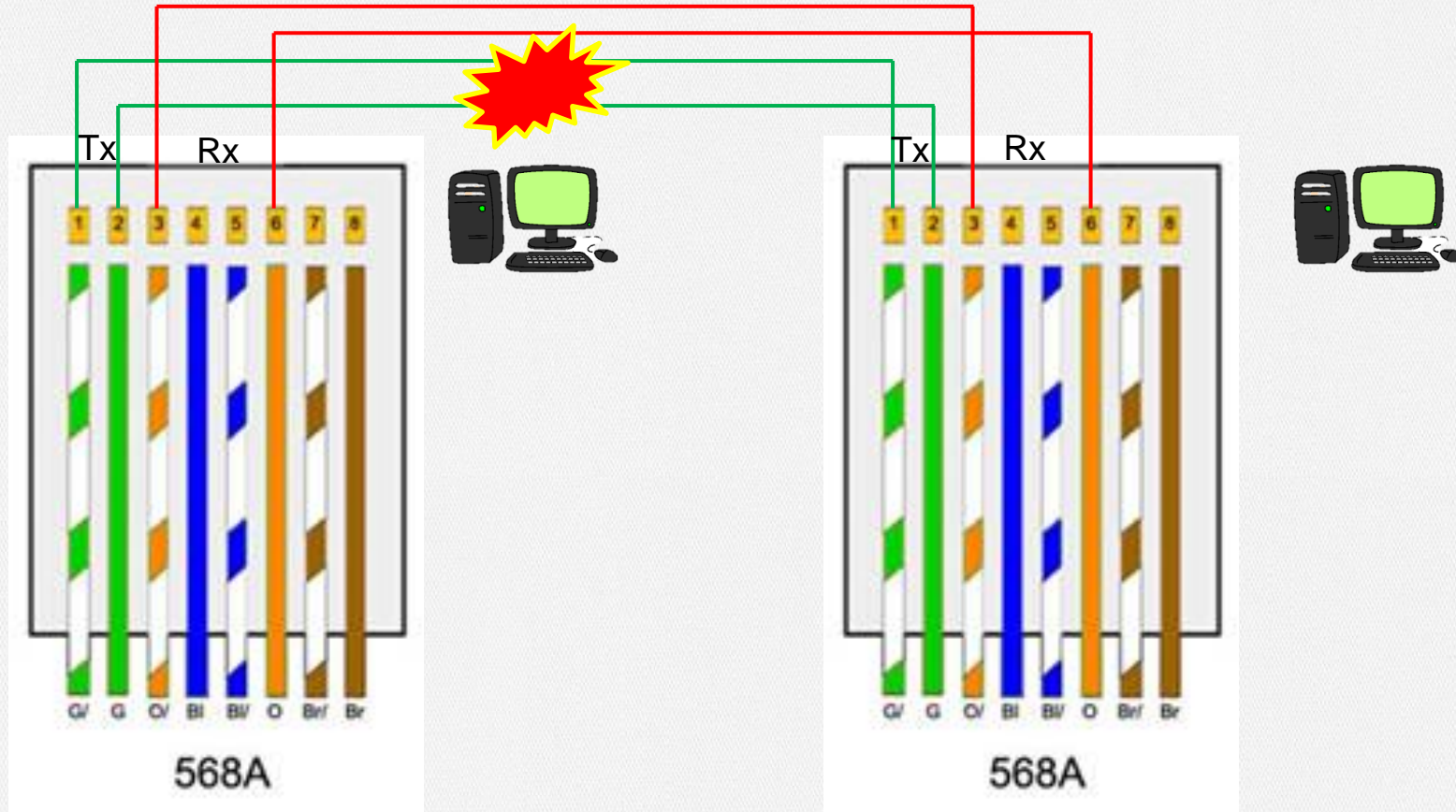


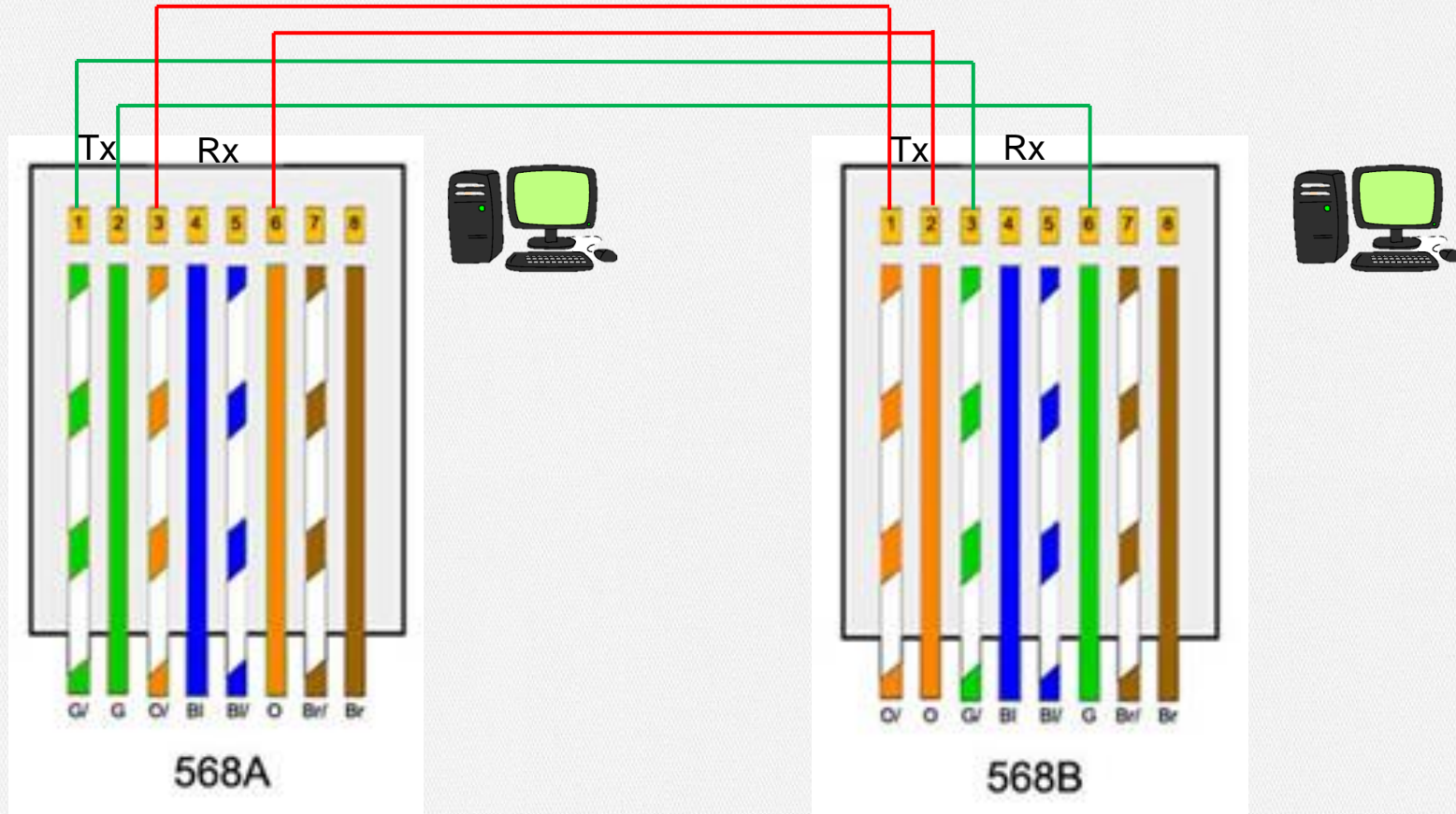
Conector RJ-45

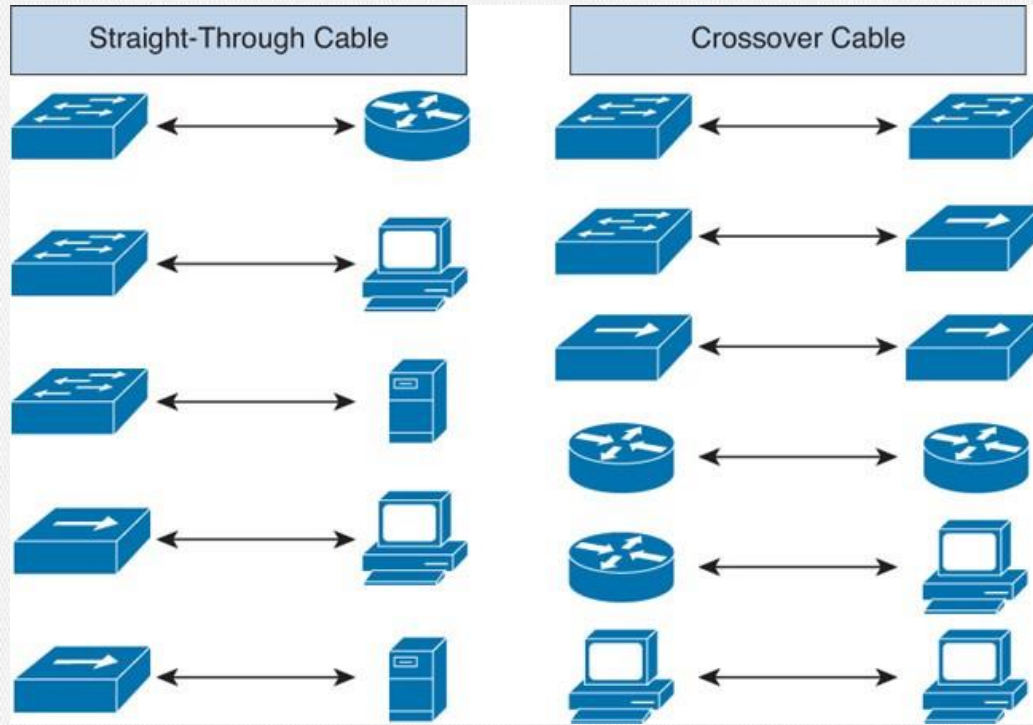












PC



HUB



SWITCH



ROUTER



SERVER



Aula 4: Routers y la comunicación externa

Máscaras de Red

La dirección IP está dividida en 2 grupos: Red y Clientes.

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Para el caso de IPv4, son 32 bits:

255.255.255.0 => 11111111.11111111.11111111.00000000

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RED.HOST

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RED.HOST

Ej.

Dirección IP: 192.168.1.3

Máscara: 255.255.255.0

Las direcciones IP están divididas en 2 partes: Red y Clientes.

Para el caso de IPv4, son 32 bits:

255.255.255.0 => 11111111.11111111.11111111.00000000

RED.HOST

Ej.

Dirección IP: 192.168.1.3

Máscara: 255.255.255.0

Red: 192.168.1

Cliente: 3

Aula 5: Direccionamiento IP y DHCP

Direcciones IPv4

Class A



24 Bits

The diagram shows a horizontal bar representing a 32-bit IP address. A red double-headed arrow spans the last three segments, labeled '24 Bits'. The bar is divided into four segments: the first is yellow and labeled 'NETWORK', and the next three are blue and labeled 'HOST'.

NETWORK

HOST

HOST

HOST

Class B



16 Bits

The diagram shows a horizontal bar representing a 32-bit IP address. A red double-headed arrow spans the last two segments, labeled '16 Bits'. The bar is divided into four segments: the first two are yellow and labeled 'NETWORK', and the next two are blue and labeled 'HOST'.

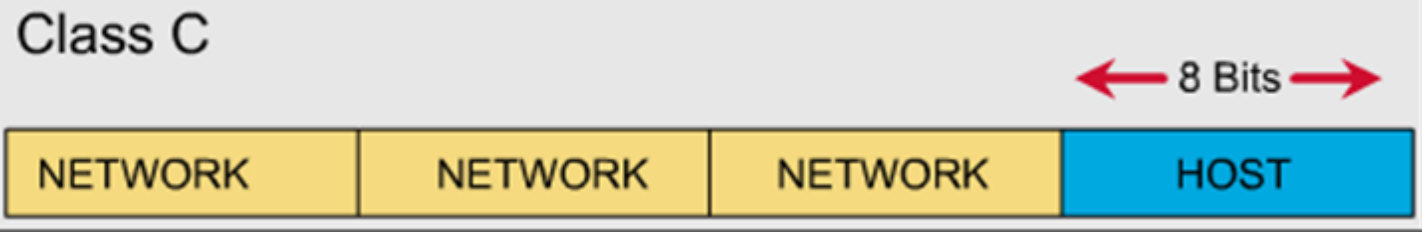
NETWORK

NETWORK

HOST

HOST

Class C



8 Bits

The diagram shows a horizontal bar representing a 32-bit IP address. A red double-headed arrow spans the last segment, labeled '8 Bits'. The bar is divided into four segments: the first three are yellow and labeled 'NETWORK', and the last one is blue and labeled 'HOST'.

NETWORK

NETWORK

NETWORK

HOST

IPv4 Class	Beginning Address	Ending Address	# of Networks	Hosts per Network	Default <u>Subnet Mask</u>
Class A	0.0.0.0	127.0.0.0	128	16,777,216	255.0.0.0 or /8
Class B	128.0.0.0	191.255.255.255	16,384	65,536	255.255.0.0 or /16
Class C	192.0.0.0	223.255.255.255	2,097,152	256	255.255.255.0 or /24
Class D	224.0.0.0	239.255.255.255	N/A	N/A	N/A
Class E	240.0.0.0	255.255.255.255	N/A	N/A	N/A

Class	Private IP address range	Subnet mask
A	10.0.0.0 – 10.255.255.255	255.0.0.0
B	172.16.0.0 – 172.16.31.255	255.255.0.0
C	192.168.0.0 – 192.168.255.255	255.255.255.0

Aula 5: Direccionamiento IP y DHCP

DHCP

