CENTRE ESPECÍFIC
D´EDUCACIÓ A DISTÀNCIA DE
LA COMUNITAT VALENCIANA

UNIT 11.COMPUTER NETWORKS
Actvites

Computer Systems
CFGS DAW

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Licencia

Nomenclatura

A lo largo de este tema se utlizarán distntos símbolos para distnguir elementos i dentro del contenido. Estos símbolos son:

Actvidad opcional. Normalmente hace referencia a un contenido que se ha comentado documentación por encima o que no se ha hecho, pero es interesante que le alumno inv practque. Son tpos de actvidades que no entran para examen

Atención. Hace referencia a un tpo de actvidad donde los alumnos suelen cometer equivocaciones.

UD011. COMPUTER NETWORKS
Activities

1.1 Actvity 1

Indicate if these IP are right or not

a) 1.1.1.1

b) 2.2.2.200

c) 200.260.0.3

d) 4.4.4.4.4

e) 5.0.0.300

f) 256.244.244.4

g) 700.1000.100

1.2 Actvity 2

Indicate if these IP are masks or not. For IP that are mask, calculate the number of compu
we can connect to them.

a) 255.0.0.0

b) 255.255.0.1

c) 255.255.128.0

d) 255.255.127.0

e) 255.255.128.15

1.3 Actvity 3

Given an IP and a mask, calculate network ID and broadcast address. If mask is not provi
default mask for IP class:

a) 18.120.16.250: Mask not provided

b) 18.120.16.255 / 255.255.0.0:

c) 155.4.220.39: Mask not provided

d) 194.209.14.33: Mask not provided

e) 190.33.109.133 / 255.255.255.0:

1.4 Actvity 4

We have a 255.255.0.0 mask and we want to create as much subnets as we can.
Each subnet needs at leas 47 hosts.
How many subnets can we create?

1.5 Actvity 5 (SOLVED)

Our computer has IP 194.100.129.120. If there are 8 subnets, indicate:

a) IP class and default mask

IP class: C

Default mask: 255.255.255.0

b) Mask when net is divided in 8 subnets

To obtain 8 subnets, we have to add 3 bits (2^3=8) to the default mask.
11111111.11111111.11111111.11100000 = 255.255.255.224 = \27

c) Network ID and broadcast IP of each subnet

Network ID of each subnet:

11000010.01100100.10000001.00000000 = 194.100.129.0
11000010.01100100.10000001.00100000 = 194.100.129.32
11000010.01100100.10000001.01000000 = 194.100.129.64
11000010.01100100.10000001.01100000 = 194.100.129.96
11000010.01100100.10000001.10000000 = 194.100.129.128
11000010.01100100.10000001.10100000 = 194.100.129.160
11000010.01100100.10000001.11000000 = 194.100.129.192
11000010.01100100.10000001.11100000 = 194.100.129.224

Broadcast IP of each subnet:

11000010.01100100.10000001.00011111 = 194.100.129.31
11000010.01100100.10000001.00111111 = 194.100.129.63
11000010.01100100.10000001.01011111 = 194.100.129.95
11000010.01100100.10000001.01111111 = 194.100.129.127
11000010.01100100.10000001.10011111 = 194.100.129.159
11000010.01100100.10000001.10111111 = 194.100.129.191
11000010.01100100.10000001.11011111 = 194.100.129.223
11000010.01100100.10000001.11111111 = 194.100.129.255

d) Subnet that our IP belongs to

Our IP 11000010.01100100.10000001.01111000 = 194.100.129.120

Is in subnet 11000010.01100100.10000001.01100000 = 194.100.129.96

e) Number of host available to each subnet

There are 5 bits for host. We cannot use Network ID IP and Broadcast IP.

The number of host available is 2^5 – 2 = 30

1.6 Actvity 6

Our computer has IP 172.10.130.4. If there are 4 subnets, indicate:

a) IP class and default mask

b) Mask when net is divided in 4 subnets

c) Network ID and broadcast IP of each subnet

d) Subnet that our IP belongs to

e) Number of host available to each subnet

1.7 Actvity 6

Our computer has IP 170.10.133.2. If there are 5 subnets, indicate:

a) IP class and default mask

b) Mask when net is divided in 5 subnets

c) Network ID and broadcast IP of each subnet

d) Subnet that our IP belongs to

e) Number of host available to each subnet