Primele Laboratoare

Wednesday, March 9, 2022 12:12

156.202.148.99/24

Pasul 1
156 = 1001.1100
202 = 1100.1010
148 = 1001.0100
99 = 0110.0011

1001.1100/1100.1010/1001.0100/0110.0011

1001.1100	1100.1010	1001.0100	0110.0011
1111.1111	1111.1111	1111.1111	0000.0000
1001.1100	1100.1010	1001.0100	0000.0000

<- Subnet Mask, 24 de 1 si restul 0
<- Aplicam SI logic intre cele doua de sus

Au ramas 8 zero, adunam valoarea lor in decimal = 128,64,32,16,8,4,2,1 = 255

156 202 148 0

N.A. = 156.202.148.0/24
B.A. = 156.202.148.255/24
R.A. = 156.202.148.1 - 156.202.148.254/24
↑ N.A. + 1 ↑ B.A. - 1

Packet Tracer

Calculam ip-urile ca mai sus pt fiecare VLAN
Calculam de cate switchuri avem nevoie pt fiecare

/30 = 2^2 - 2 = 2 Hosturi
/29 = 2^3 - 2 = 6 Hosturi
/28 = 2^4 - 2 = 14 Hosturi
/27 = 2^5 - 2 = 30 Hosturi
....

1 Switch are 24 conexiuni

Exemplu

VLAN 40 - TOM - fa 0/6-10
192.168.250.64/28 <- 14H - 1 Sw

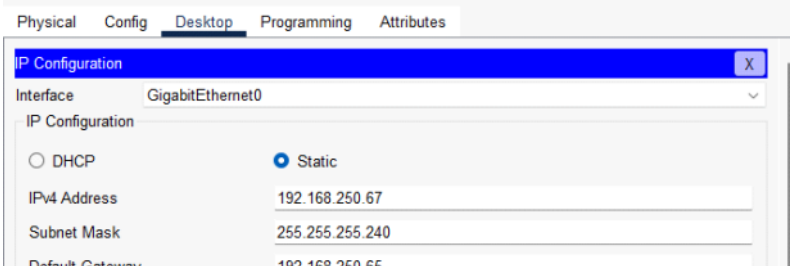
VLAN 50 - JERY - fa 0/12-16
192.168.249.96/27 <- 30H - 2 Sw

VLAN 60 - BUCK - fa 0/18-22 <- 62H - 3 Sw
192.168.248.192/26
VLAN 65 - NULL
VLAN 69 - MAN

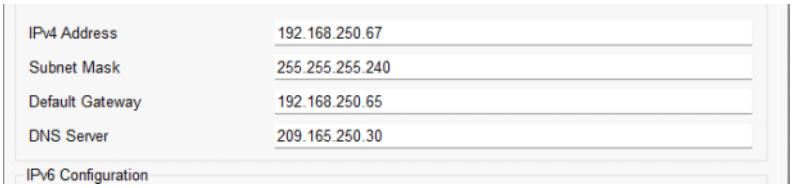
Primul IP este asignat default gateway-ului, apoi cate unul pt fiecare Switch.

Adaugam un PC
Schimbam placa cu PT-HOST-NM-1CGE
Configuram IP

Calculam IP-urile pt fiecare VLAN
Ex: TOM
N.A. = 192.168.250.64/28
B.A. = 192.168.250.79/28
R.A. = 192.168.250.65-192.168.250.78/28



IPv4 = Next IP dupa N.A. + 1 (Default Gateway) + 1 (Switch) = 192.168.250.67
Subnet Mask = /28 (Au ramas 4 biti de zero - 255-15 = 240)
Default Gateway = Urmatorul IP dupa N.A.
DNS Server = 209.165.250.30 (din scripte)



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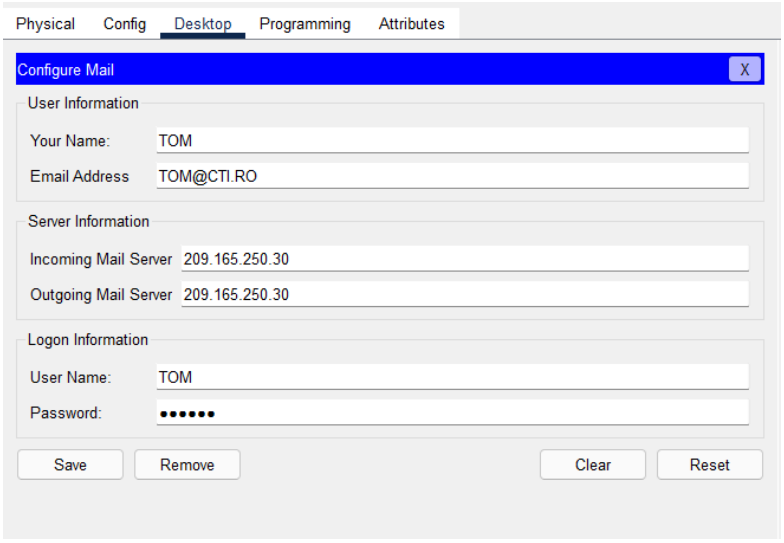
Subnet Mask = /28 (Au ramas 4 biti de zero - 255-15 = 240)
Default Gateway = Urmatorul IP dupa N.A.
DNS Server = 209.165.250.30 (din cerinta)

Configuram E-Mail



Numele retelei din cerinta

DNS

Parola: 123456

Adaugam un Switch 2960 si un laptop SERVICE conectate printr-un cablu Console

In Terminal adaugam comenzile:

Configure basic Switch:
enable
clock set 14:46:20 19 Oct 2021
configure terminal
no ip domain-lookup
hostname {NUME}
no cdp run
service password-encryption
enable secret ciscosecpa55
enable password ciscoenapa55
banner motd $Text$
line console 0
password ciscoconpa55
login
logging synchronous
exec-timeout 25 30
exit
line vty 0 15
password ciscovtypa55
login
logging synchronous
exec-timeout 25 30
end

Configure SSH:
configure terminal
ip domain-name cti.ro
username Admin01 privilege 15 secret Admin01pa55
line vty 0 15
transport input ssh
login local
exit
crypto key generate rsa
2048
interface vlan 1

```
description {Text}
no shutdown

# Pentru fiecare VLAN executam comenzile: (presupun ca suntem in (config) #)
VLAN 40
name TOM
exit

VLAN 50
name JERY
exit

VLAN 60
name BUCK
exit

VLAN 65
name NULL
exit

VLAN 69
name MAN
exit

# Apoi configuram pt fiecare VLAN (fara NULL si MAN):
interface range fa0/6-10 (inlocuiti cu datele din problema fa0/6-10)
switchport mode access
switchport access VLAN 40
exit

interface range fa0/12-16
switchport mode access
switchport access VLAN 50
exit

interface range fa0/18-22
switchport mode access
switchport access VLAN 60
exit

# Apoi introducem comenzi ce adauga la securitate:
# Selectam toate interfetele libere fara MAN + un giga0/1-2
interface range fa0/5, fa0/11, fa0/17, giga0/1-2
switchport port-security
switchport port-security maximum 2
switchport port-security mac-address sticky
switchport port-security violation shutdown
exit

#Configuram si MAN
interface range fa0/1-4
switchport mode trunk
switchport trunk native VLAN 69
switchport trunk allowed VLAN 40,50,60,65
exit

end
copy running-config startup-config
```