

Rezumat

▼ PC → Switch

```
I) Configurare PC
1) PC [NUME]
2) Placa de retea CGE
3) IP Configuration
   IP: N.A. + 10 (Lasam 10 IP-uri pentru switch-uri)
   Mask: Se calculeaza dupa numarul de biti
   Gateway: Cel mai mic ip din range
   DNS: Cel mai mare ip din range
4) E-Mail
   Name: [NUME]
   Email: [NUME]@INFO.RO
   Server Information:
   [DNS]
   User Name: [NUME]
   Password: 123456

[SAVE]

II) Configurare Switch
1) Switch 2960 cu nume propriu
2) Laptop SERVICE
3) Cablu Console -> Laptop -> RS 232 -> Switch -> Console
4) Laptop -> Terminal -> Ok
   Switch> -> modul utilizator
   Switch# -> modul privilegiat
   Switch(config)# -> modul de configurare globala (configurare standard) in care
                       am control ca specialist

Comenzi pentru configurarea switch-ului:

enable                -> Switch#
configure terminal    -> Switch(config)#
no ip domain-lookup   -> pentru evitarea erorilor, nu sta sa caute un input invalid
                       in tot istoricul de comenzi
hostname Sw[NUME]     -> schimbam numele -> Sw[NUME](config)#
no cdp run            -> inchide serviciul cdp, adica nu va mai fi descoperit de
                       alte switch-uri
interface range fa 0/1-24 -> toate interfetele fast
shutdown              -> le inchidem pentru ca nu le folosim
exit

service password-encryption -> serviciu de criptare a parolelor
enable password ciscoenapa55 -> prima parola
enable secret ciscosecpa55   -> a doua parola care este ceruta, in caz ca aceasta
                               nu este introdusa, este ceruta prima
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banner motd # Vineri la ora 14:00 serverul va fi oprit !#
                                -> message of the day, un mesaj informativ relevant

line console 0                  -> SwATENA(config-line)# -> vrem sa securizam
                                switch-ul cand e accesat prin cablu
password ciscoconpa55          -> setam parola
login                          -> vrem ca parola sa fie ceruta la login
logging synchronous            -> imi permite configurarea chiar daca sistemul
                                ruleaza si alte activitati ale S.O.
exec-timeout 25 10             -> dupa 25 min, 10 sec, sistemul cere parole(logarea)
exit                           -> ne intoarce in modul de configurare globala
                                (Sw[NUME](config)#)

line vty 0 15                  -> intram in modul de configurare line, prin alte linii
                                -> Sw[NUME](config-line)#
password ciscovtypa55
login
logging synchronous
exec-timeout 20 20
end                             -> ne intoarcem in modul privilegiat

[show clock]                   -> afiseaza timpul la care a fost setat echipamentul
clock set 10:54:25 25 Feb 2021 -> setam ceasul

configure terminal
ip domain-name info.ro         -> vrem sa configuram de la distanta
username Admin01 privilege 15 secret Admin01pa55
                                -> utilizatorul cu toate drepturile
line vty 0 15                  -> se poate conecta de la distanta doar prin liniile
                                vty
                                -> Sw[NUME](config-line)#
transport input ssh            -> il instruiesc sa permita serviciul transport input
                                prin ssh (secure shell)
login local                    -> la logare locala se cere parola
exit                           -> Sw[NUME](config)#
crypto key generate rsa        -> 2048
                                -> algoritmul de cryptare a parolei pe 2048 de biti

[Monitorizarea sistemului de logare]
logging host [Server IP]
service timestamps log datetime msec
service timestamps debug datetime msec

[Configurarea interfetei virtuale (doar in switch-uri) vlan 1]
interface vlan 1                -> SwATENA(config-if)#
description Legatura cu ramura [N.A.]
ip address [N.A. + 2] [Mask]    -> urmatorul IP dupa gateway
no shutdown                    -> facem legatura activa
exit
ip default-gateway [N.A. + 1]  -> pentru a fi vazut din intreaga topologie,

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ii adaugam gateway
end
copy running-config startup-config      -> salvam modificarile

5) Cablu Copper Straight-Through -> PC -> GigabitEthernet0 -> Switch
   -> GigabitEthernet0/2

[Testare]
6) PC -> Command Prompt -> ping adresa switch [Gateway + 1]
   -> prima oara e posibil sa piarda pachete pana reusesc comunicarea, iar a
      doua oara ar trebui sa nu piarda
C:\> -> ssh -l Admin01 192.168.243.2 -> ne conectam de la distanta prin ssh
      cu utilizatorul admin creat
Password -> Admin01pa55

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▼ Router → Switch

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I) Configurare Router
Router 2911 R[NUME]
Physical -> Power Off -> HWIC-2T -> Cat mai aproape de sursa (dreapta)
Conectez laptopul la Router prin cablul Console -> No

[Comenzi configurare Router]
enable
configure terminal
no ip domain-lookup
hostname R[NUME]
no cdp run

[Inchidem interfetele pe care nu le folosim]
interface range giga 0/1-2          -> interfetele pe care nu le folosim
shutdown
exit
interface serial 0/0/1
shutdown
exit

service password-encryption
security passwords min-length 10     -> parola de minim 10 caractere
login block-for 50 attempts 3 within 15 -> la interval de 15 sec si 3 incercari
                                         esuate, blocam pentru 50 secunde

enable password ciscoenapa55
enable secret ciscosecpa55
banner login #Accesul persoanelor neautorizate este strict interzis !#
banner motd #Vineri la ora 10:00 sedinta IT !#
line console 0
password ciscoconpa55
login
logging synchronous
exec-timeout 25 25
exit

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line vty 0 15
password ciscovtypa55
login
logging synchronous
exec-timeout 30 30
end
clock set 18:57:30 13 May 2021
configure terminal
ip domain-name info.ro
username Admin01 privilege 15 secret Admin01pa55
line vty 0 15
transport input ssh
login local
exit
crypto key generate rsa -> 2048

[Monitorizarea sistemului de logare]
logging host [Server IP]
service timestamps log datetime msec
service timestamps debug datetime msec

[Configuram IP pe INTERFATA FIZICA]
[Interfata switch-router]
interface giga 0/0
description Legatura cu LAN [N.A.]
ip address [N.A. + 1] [Mask]
no shutdown
ip helper-address [N.A. + 1/ IP Server] -> daca avem DHCP pe routerul vecin folosim
legatura respectiva

exit

[Interfata router-router]
interface serial 0/0/0
description Legatura cu routerul [RNUME]
ip address [IP] [MASK]
no shutdown

[Rutare]
ip route [N.A.] [Mask] [serial] -> retelele care nu sunt conectate direct
end
copy running-config startup-config

[TESTARE]
Cablul Copper Straight-Through -> Switch -> GE0/1 -> Router -> GE0/0
PC -> Terminal -> Ping + ssh in switch si router

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▼ Router → Router

Legatura intre doua routere se face prin portul Serial.
 Legam Routerele:
 1) Cablul Serial DTE (Data Terminal Equipment)

- 2) Click pe primul router -> alegem portul serial -> click pe al doilea router care face legatura cu serverul -> alegem portul serial identic
- 3) Ceasul trebuie sa fie de la stanga la dreapta

▼ WIFI

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[Pentru WIFI cu useri]
Wireless Devices -> WRT300N
[Pentru 15 useri]
  2^4 -> 15 -> 2^5
  32 - 5 = 27 -> 255.255.255.224
Wifi -> Auto DHCP -> 192.168.243.33
-> Mask de mai sus -> 30 useri -> save

WIFI-[NUME]
GUI (Graphic User Interface) -> Static IP
IP: [Cel mai mare din range]
Mask: 255.255.255.252
Gateway : [Cel mai mic din range]
DNS: [Cel mai mare din range-ul serverului]

[Network Setup]
IP: 192.168.243.65
Mask: 255.255.255.240
Start IP: 65
Users: 14
-> SAVE

[WIRELESS]
Name: WIFI-[NUME]
Standard Channel: 6/11
-> SAVE

[WIRELESS SECURITY]
Mode: WPA2 Personal
Passphrase: 123456789
-> SAVE

Laptop -> L[NUME] -> Physical -> WPC300N
Desktop -> PC Wireless -> Profiles -> NEW -> WIFI-[NUME]
-> Advanced Setup -> WIFI-[NUME] -> Next -> Next -> Security WPA2-Personal
-> Next -> 123456789 -> Next -> Save -> Connect -> Linii verzi

Laptop -> Physical -> WPC300N
-> Mail

Cablu Copper Cross-Over -> R[NUME] -> GE0/1 -> WIFI-[NUME] -> Internet
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[TESTARE]
L[NUME]-> CMD -> ping IP R[NUME] GE0/1 -> ping Sw[NUME] -> ping PC[NUME]
```

▼ Server

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Physical -> CGE
IP Configuration:
  IP: [cel mai mare din range]
  Mask: [Mask]
  Gateway: [cel mai mic din range]
  DNS: [IP]
Mail

Server -> Services -> HTTP Off
-> DNS -> On -> Name: INFO.RO -> Address: [Server IP] -> Add
-> EMAIL -> Domain Name :INFO.RO -> Set -> User: SERVER, [DEST1], [DEST2], L[NUME]
-> Pass 123456 -> +

-> FTP -> Write, Read, Delete, Rename, List -> adaugam useri (key sensitive)

[TESTARE]
Server -> Desktop -> Mail -> Compose -> To: [NUME]@info.ro
      -> Subject: Test -> Verificare serviciu de e-mail -> Send
[NUME] -> Mail -> Receive -> Reply -> [NUME] -> Send
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PCCEHIA -> Desktop -> Web Browser -> 136.236.16.126 -> Go -> https
-> info.ro -> https

PCCEHIA -> Desktop -> Mail -> Compose -> To: Server -> Subject: server@info.ro
      -> Verificare e-mail -> Send

PCCEHIA -> Desktop -> CMD -> FTP 136.236.16.126 -> cisco -> cisco -> ftp> dir
```

▼ DHCP

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Server -> Services -> DHCP -> On
  Name: [Numele PC-ului cu hosturi multe]
  Gateway: [Cel mai mic ip din range de la numele respectiv]
  DNS: [IP Server]
  Start IP: [IP PC]
  Mask: [Mask PC]
  Max Users: [Allocated size - 2 - [IP Server].last]
-> Add

Ma duc pe reseaua (routerul) care face legatura cu celealte (cel din mijloc)
Ma duc pe interfata cu [Nume PC]
  ip helper-address [IP Server]
  save
```

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Aduug un PC Test -> FastEthernet0 -> Sw[NUME] -> FE0/24
Intru in Sw[NUME] ->
    interface fa 0/24
    no shutdown
Intru in PC Test -> Ip -> Mut de pe Static pe DHCP pana DHCP request successful

[DHCP pe router]
configure terminal
ip dhcp excluded-address [N.A. + 1] [N.A. + x - 1]
    -> rezervam anumite ip-uri(x = 50) din retea routerului unde vrem DHCP
ip dhcp pool [NUME] -> numele retelei unde vrem sa folosim dhcp
network [N.A] [Mask] -> retea unde vrem dhcp
default-router [N.A. + 1] -> retea unde vrem dhcp
dns-server [SERVER IP]
domain-name info.ro

```

▼ FTP

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[TESTARE]
PC[NUME] -> CMD -> FTP [IP SERVER] -> cisco -> cisco
-> get asa842-k8.bin

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show run -> afisare comenzi
show ip route -> afisare rute
Router -> interface [interfata] -> no ip address -> stergem ip-ul
Switch -> interface vlan 1 -> no ip default-gateway [ip] -> stergem ip

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