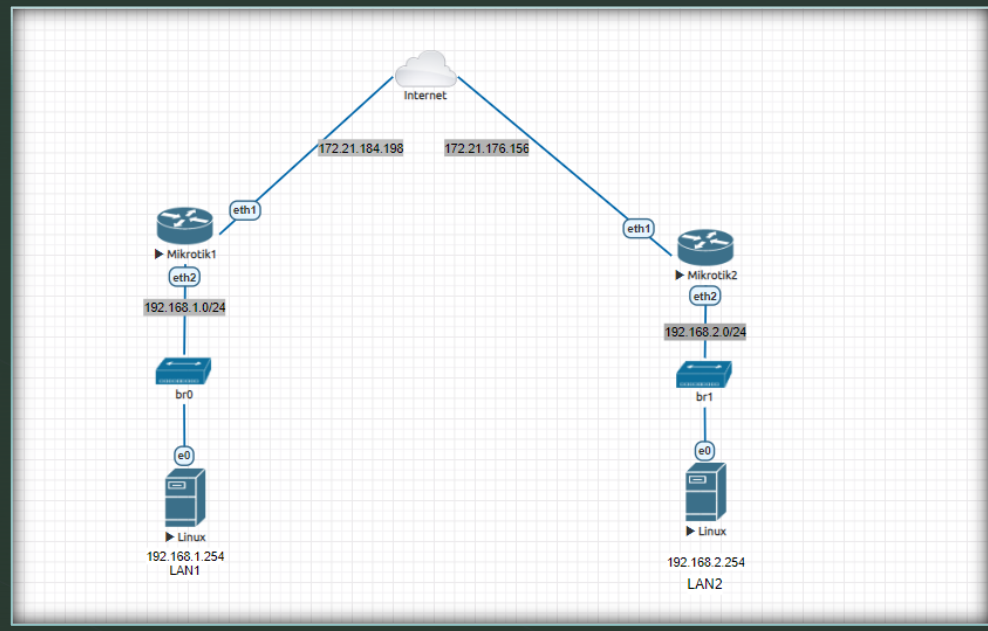
Laboratoare Retelistica

Rutare Dinamica cu Protocolul RIP si WAN Failover

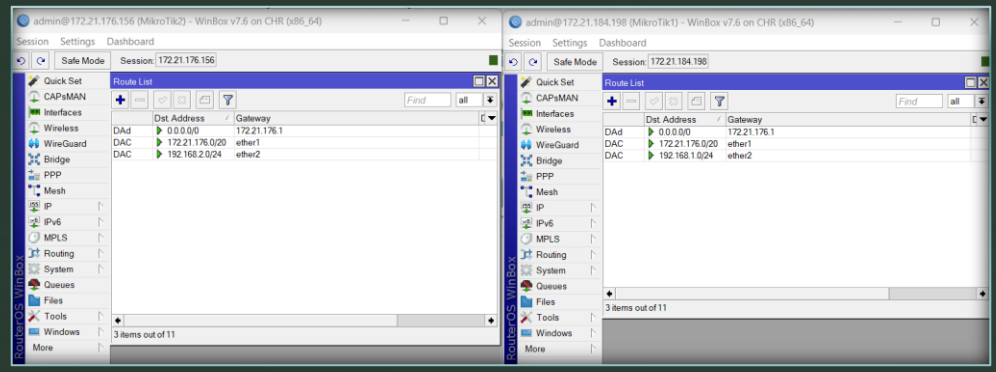
Setup-ul de Baza

- Incepem laboratorul cu setup-ul trecut in care aveam doua routere conectate la WAN si fiecare cu o retea LAN dupa care am adaugat rute statice.
- In acest laborator vom inlocui idea de rutare statica cu rutarea dinamica. Primul protocol pe care il folosim este RIP.



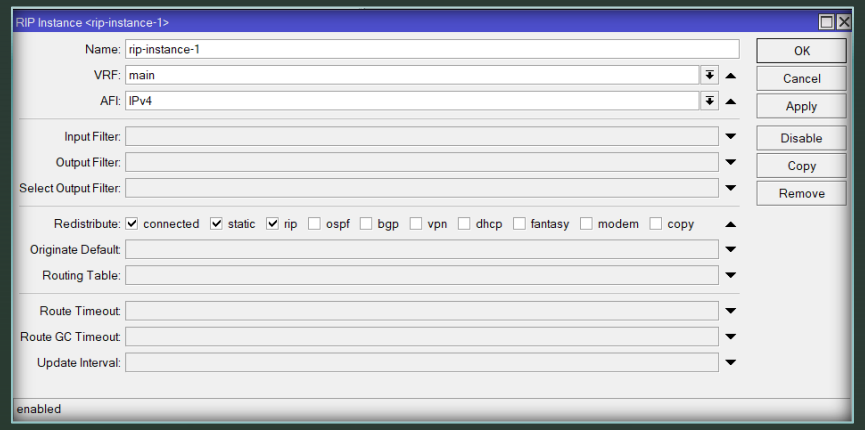
Setup-ul de Baza

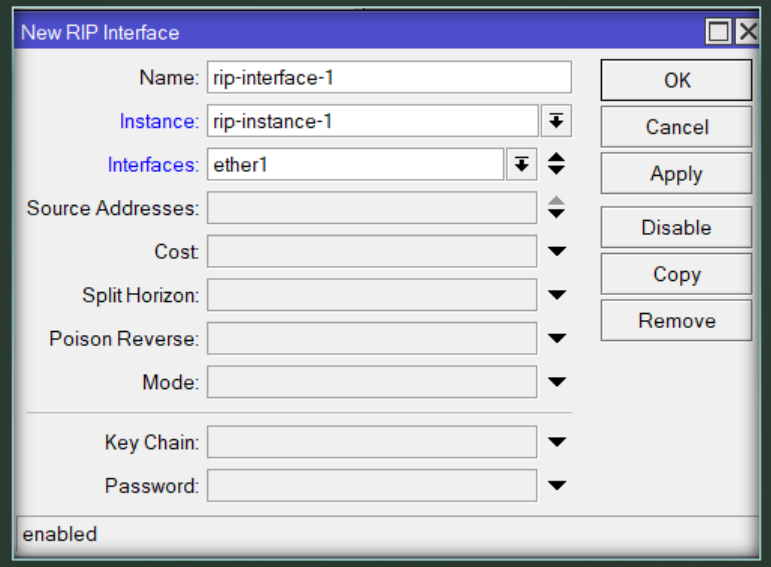
- Primul lucur pe care trebuie sa il facem este sa stergem rutele statice create anterior.



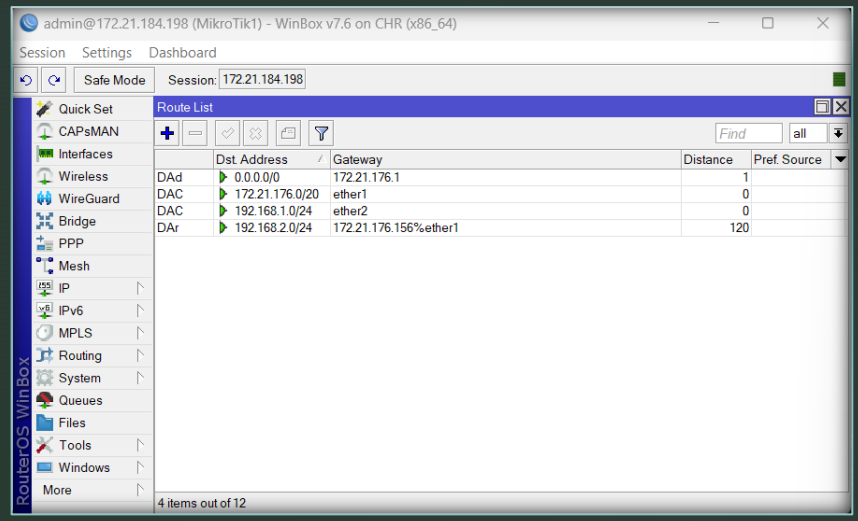
Setup MikroTik1 si Mikrotik2

- Pentru a incepe configurarea protocolului RIP trebuie sa intram in Routing->RIP si adaugam o noua instanta RIP.
- VRF (Virtual Routing and Forwarding) il setam ca “main” pentru ca este tabela de rutare.
- AFI il setam pe IPv4 (nu folosim inca IPv6).
- Redistribute bifam static, connected si RIP (aici alegem ce trimitem mai departe catre nodurile vecine adica rute statice, conectate sau valide si cele primite prin RIP).
- Dupa ce salvam, mergem la tab-ul “Interface Template” si adaugam un template nou.
- La Instance, selectam ce instanta de RIP vrem sa folosim.
- La Interfaces selectam pe ce interfata/interfete vrem sa trimitem mesajele RIP (cazul nostru ether1).
- Mai putem seta costul, Split Horizon, Poison Revere si chiar o parola pentru mai multa Securitate.

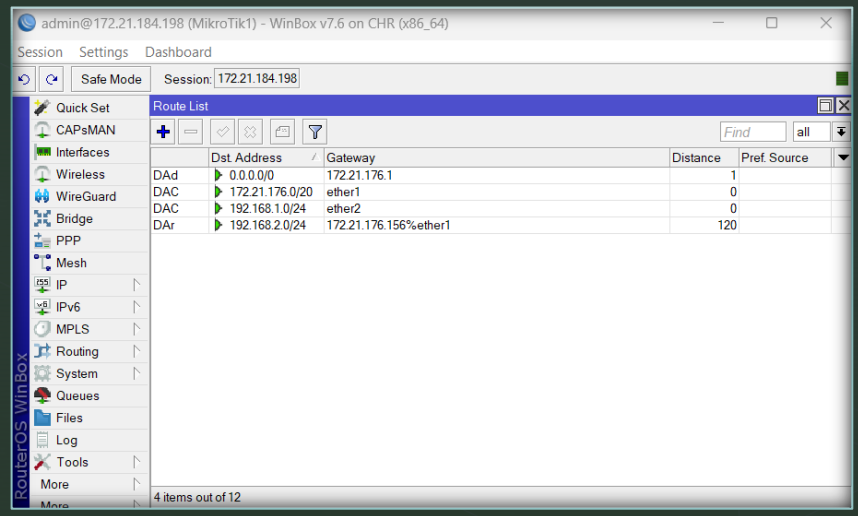




Setup MikroTik1 si Mikrotik2

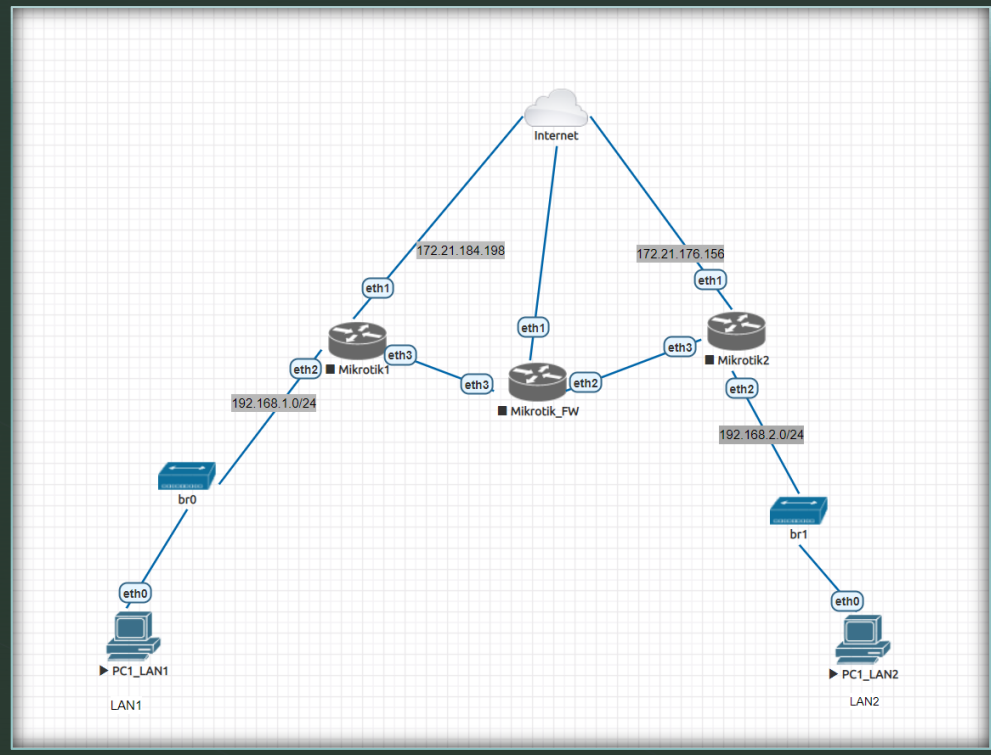


- Daca ne uitam in rute, pe ambele routere putem observa ca au fost adugate rute noi automat.



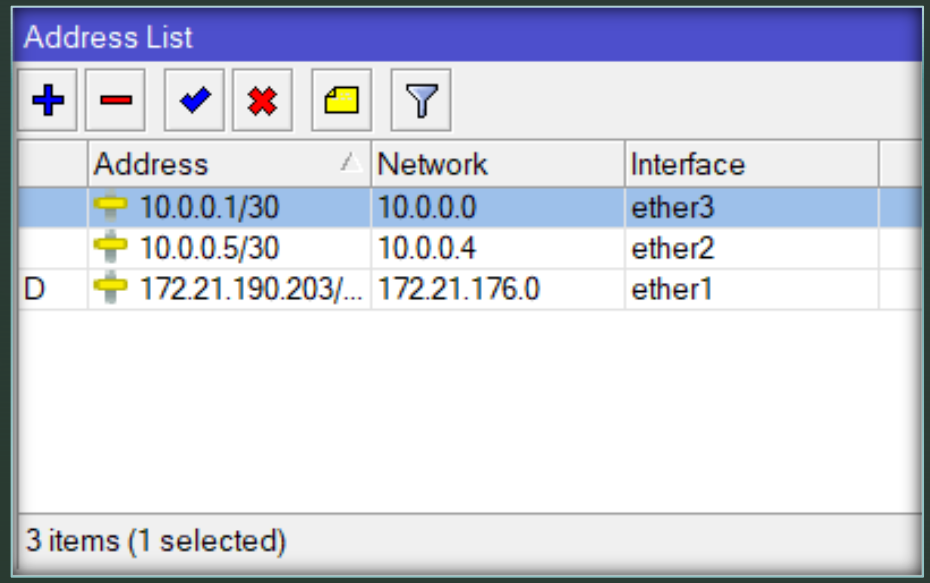
WAN Failover

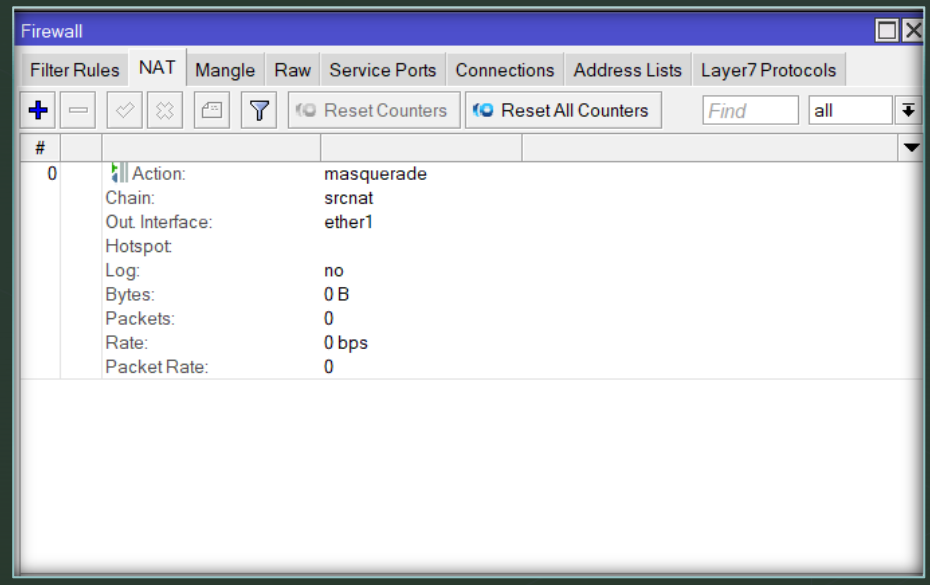
- Ideea din spatele unei rutari cu WAN failover este ca in cazul in care interfata cade sa se foloSeasca o ruta alternativa automat de router printr-un alt router conectat la WAN.
- In diagrama noastra vom adauga un router now Mikrotik _WF pe care il vom conecta la cele doua rutere existente pentru a oferi redundanta ambelor routere.



WAN Failover

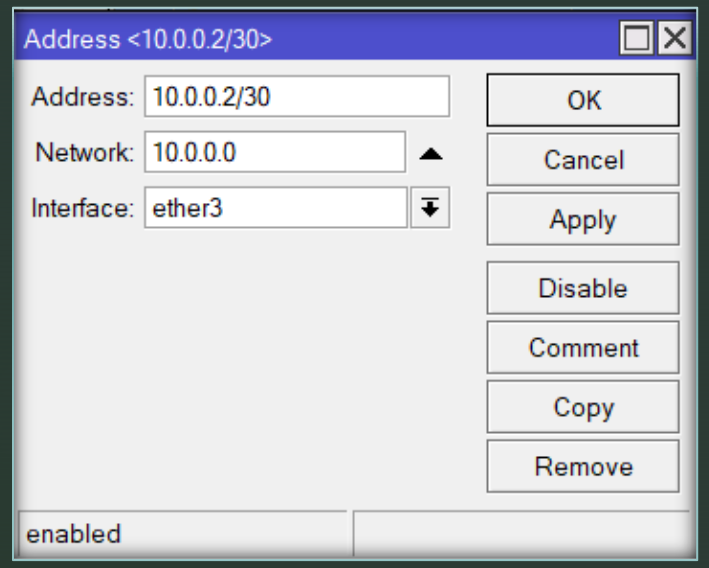
- In routerul de failover avem conectate ether2 si ether3 la routerele laterale. Ele se vor conecta prin retele de /30 la routerul de failover.
- Incepem configurarea interfetelor 2 si 3 cu retele de /30 pe router.
- Dupa care setam pe el NAT-ul.

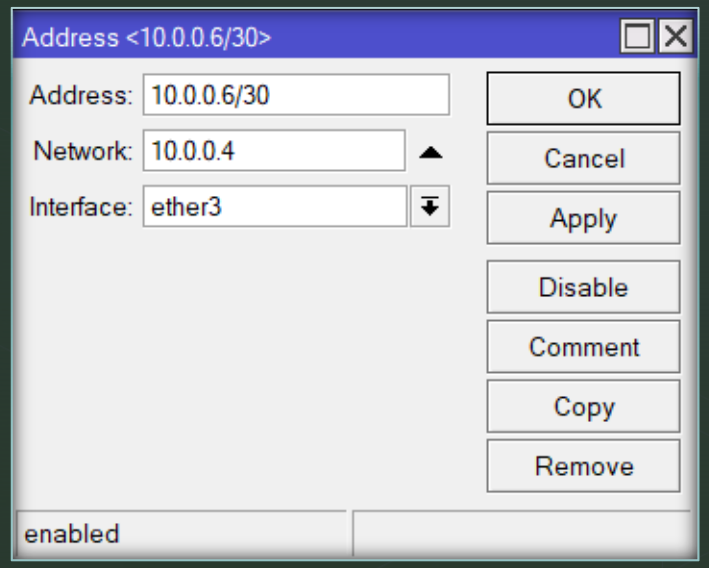




WAN Failover

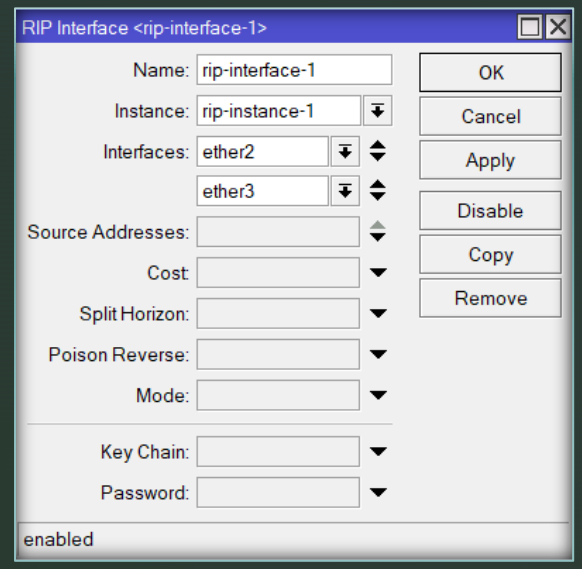
- Pe routerul 1 setam pentru ether3 prima retea (10.0.0.0/30).
- La fel procedam si pe routerul 2 unde ii setam reteaua (10.0.0.4/30).

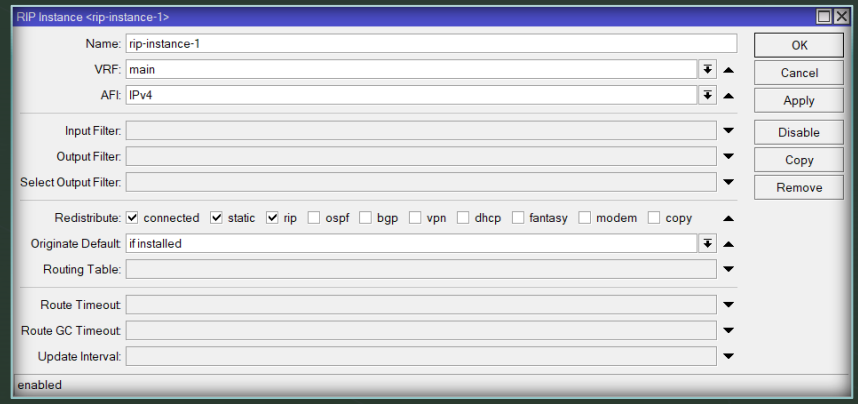




WAN Failover

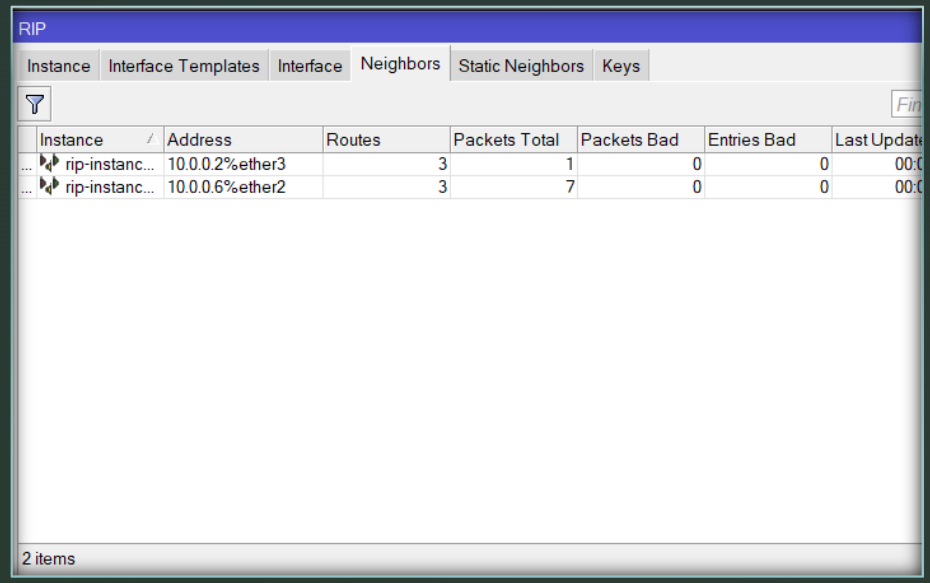
- Pe routerul de failover setam RIP -ul.
- Setup-ul este asemanator doar ca la “Originate Default” il setam ca “if installed”. Asta inseamna ca daca exista ruta catre WAN (0.0.0.0) sa transfere conexiunea prin RIP (sa faca advertise) la acea ruta.

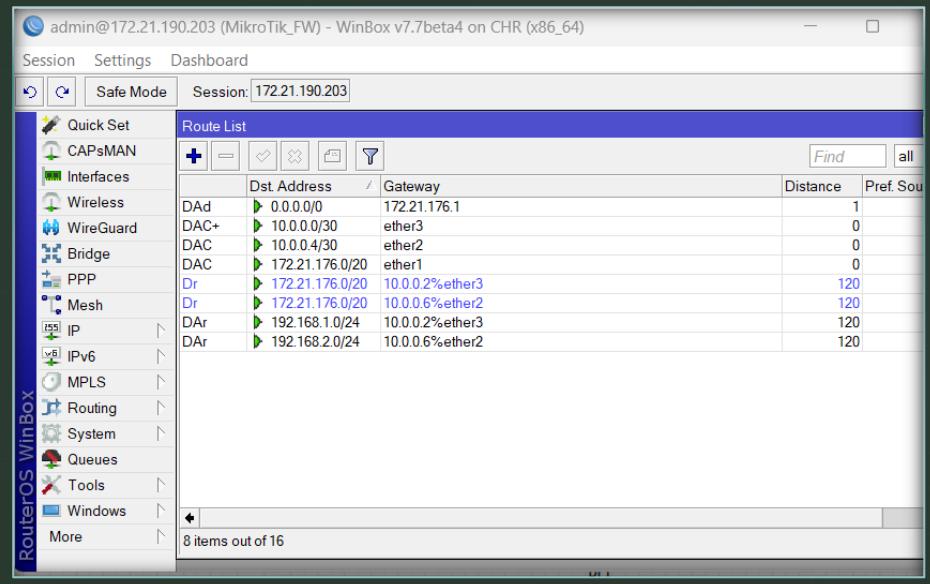


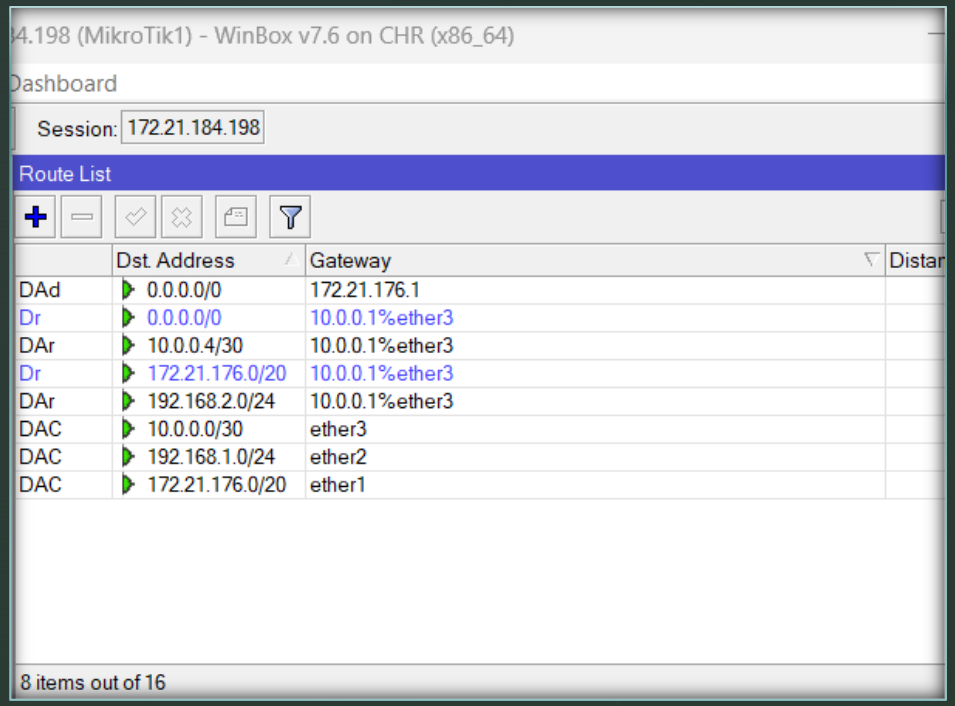


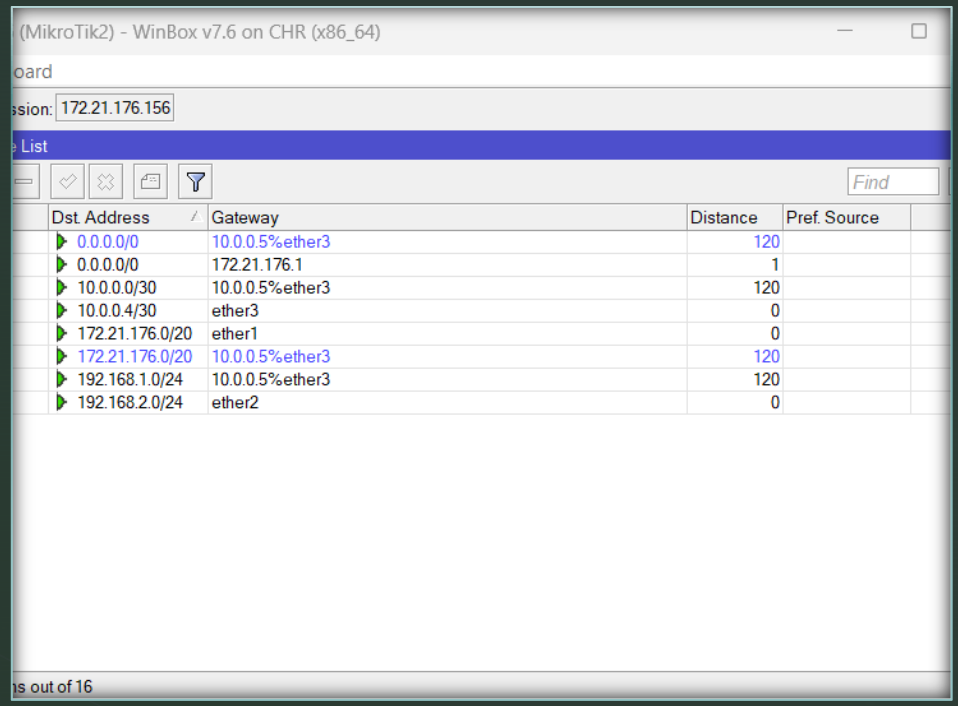
WAN Failover

- Putem observa in tab-ul de “Neighbors” cele doua routere.
- Acum putem verifica in rute ce am primit de la vecini.







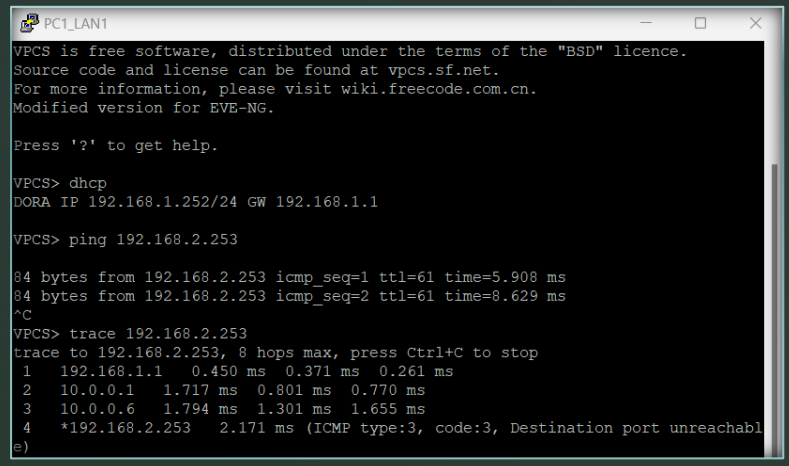


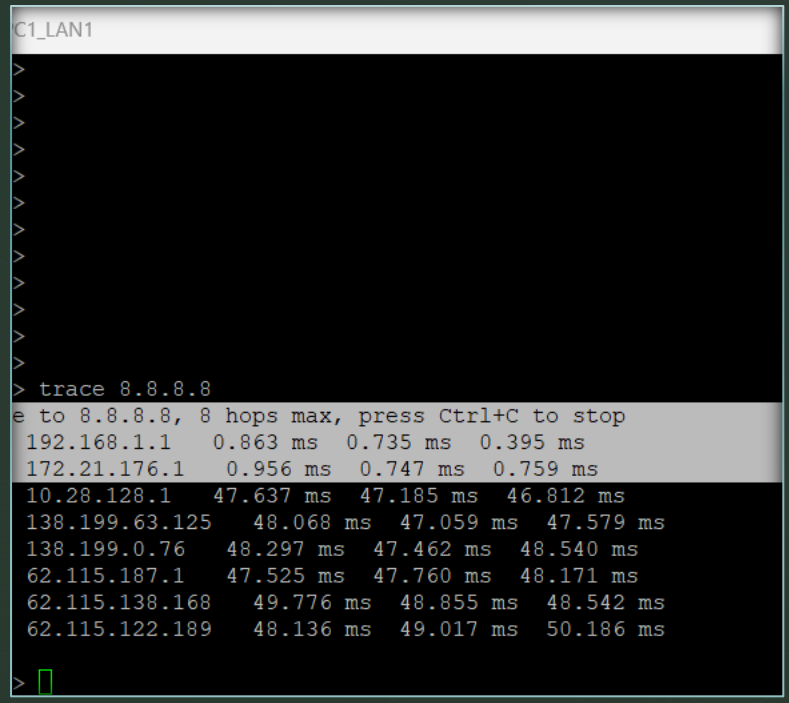
Putem sa verificam si pe routerul 1 si 2

WAN Failover

WAN Failover

- Acum putem sa facem cateva teste.
- Primul test este de a vedea daca este si pe unde este accesibila reteaua 2 din reteaua 1.
- Dupa care putem sa verificam ruta catre 8.8.8.8





WAN Failover

- Pe router 1 putem sa oprim interfata ether1 (WAN).
- Putem observa ca trece prin routerul de failover cu hopul 10.0.0.1.