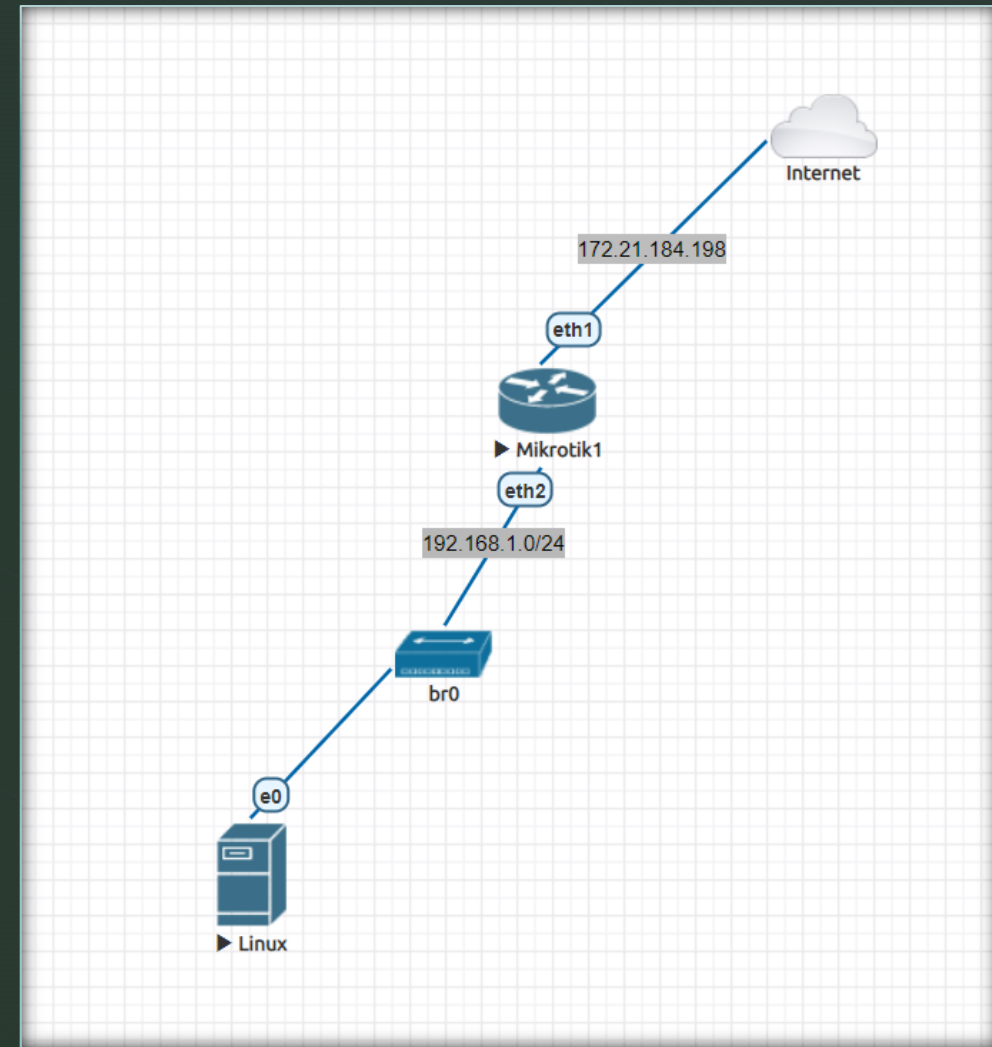


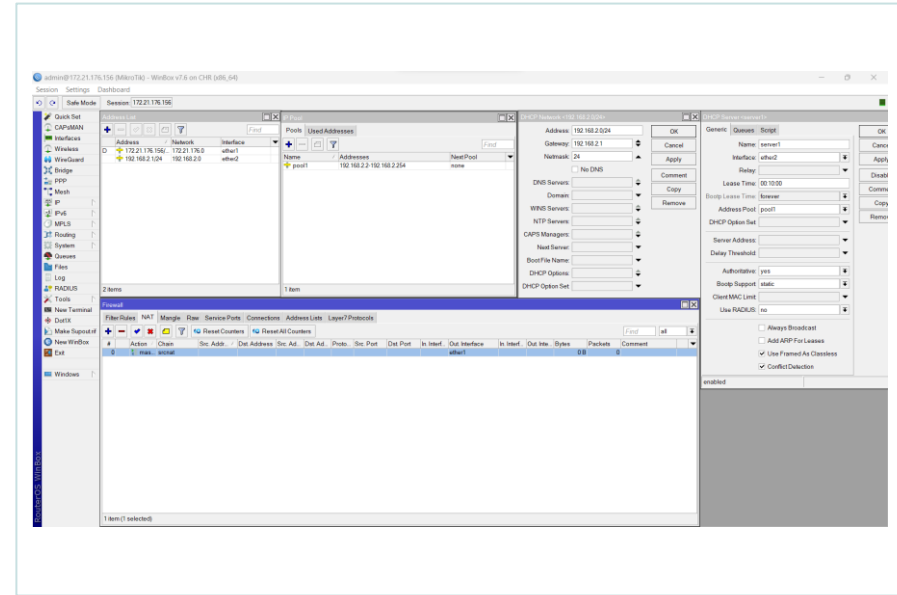
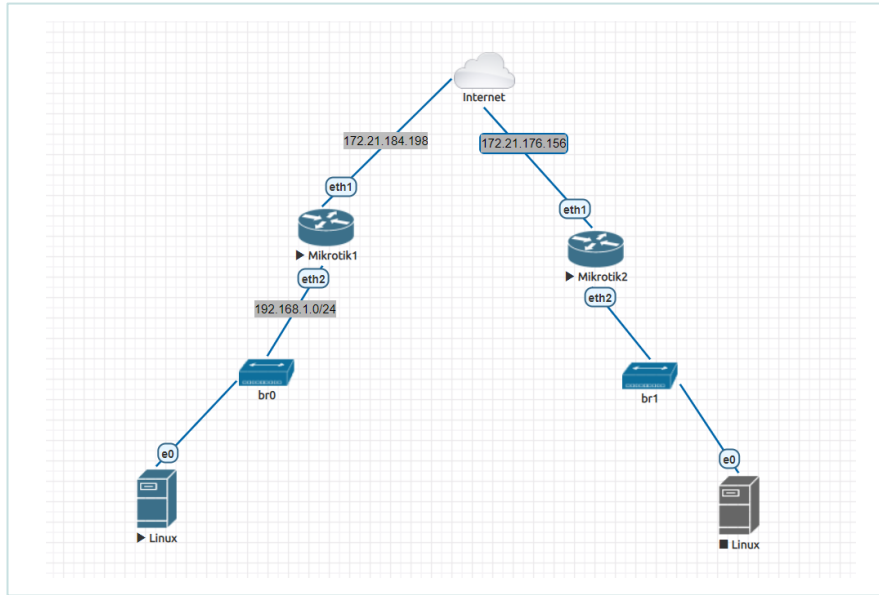
Laboratoare Retelistica

Rutare Statica

Setup

- Incepem laboratorul cu setup-ul trecut in care aveam un router conectat la WAN si cu o retea LAN la care era atasat un container LXC.



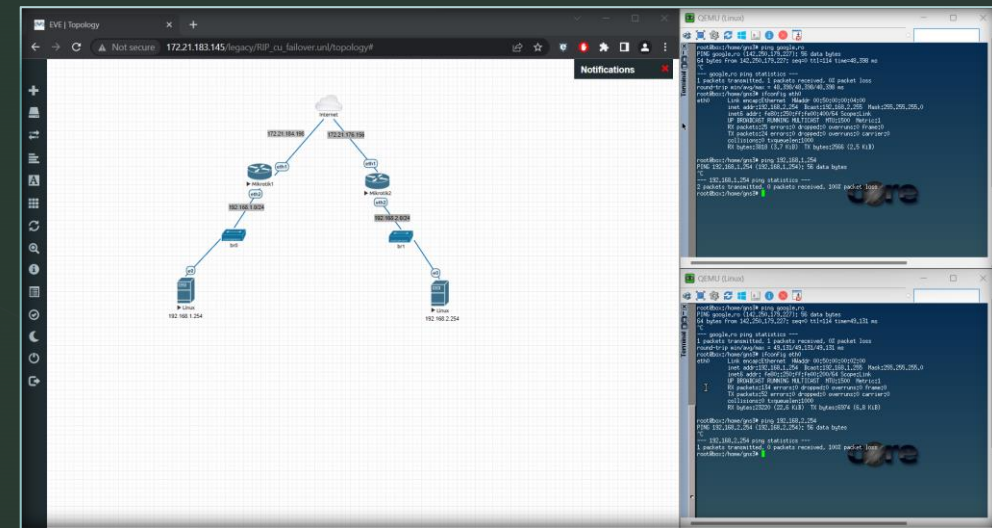


Pe care il vom dubla dupa cum se poate vedea mai sus

Setup

Routarea in cele doua retele

- Desi fiecare retea are acces pe WAN cele doua nu sunt accesibile intre ele.
- Metoda explicate in acest laborator este de a face rute statice intre cele doua echipamente pentru a se cunoaste intre ele (din punct de vedere al LAN-urilor 192.168.1.0/24 si 192.168.2.0/24)



Adaugarea Rutelor

- Pentru a adauga pe Mikrotik1 ruta catre LAN-ul lui Mikrotik2 trebuie sa intram in IP->Routes
- Unde adaugam o ruta noua, la Dst. Address setam 192.168.2.0/24 reteaua LAN a lui Mikrotik2.
- La Gateway punem IP-ul extern al routerului Mikortik2 (172.21.176.156)

The screenshot shows the 'Route' configuration window in Mikrotik WinBox, titled 'Route <192.168.2.0/24->172.21.176.156>'. The window has three tabs: 'General', 'Status', and 'MPLS', with 'General' selected. The configuration fields are as follows:

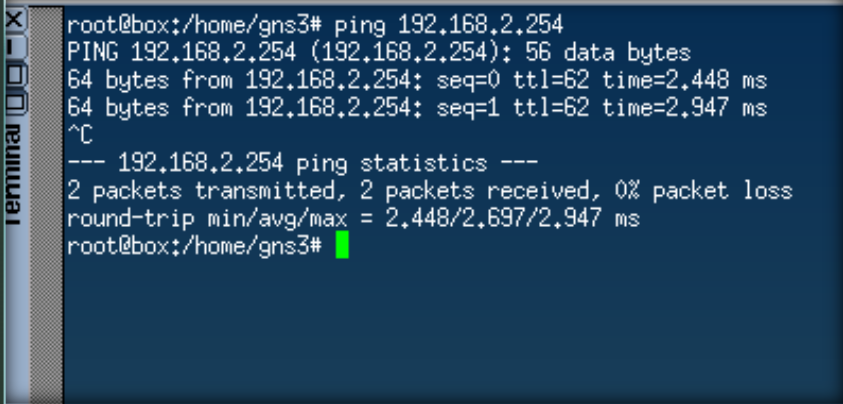
- Dst Address:** 192.168.2.0/24
- Gateway:** 172.21.176.156
- Immediate Gateway:** 172.21.176.156 (highlighted in blue)
- Local Address:** (empty field)
- Check Gateway:** (dropdown menu)
- ☐ Suppress Hw Offload
- Distance:** 1
- Scope:** 30
- Target Scope:** 10
- VRF Interface:** (dropdown menu)
- Routing Table:** main
- Pref. Source:** (dropdown menu)
- ☐ Blackhole

On the right side of the window, there is a vertical stack of buttons: OK, Cancel, Apply, Disable, Comment, Copy, and Remove.

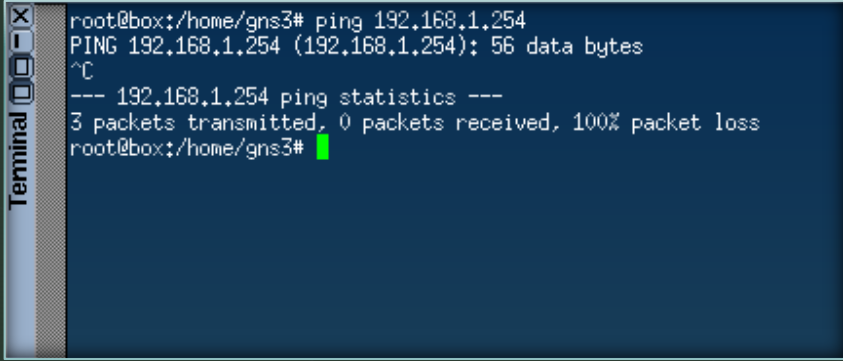
At the bottom of the window, there is a status bar with the following fields: enabled, active, static, Hw Offload..., and ECMP.

Adaugarea Rutelor

- Daca testam ping-ul din masina linux aflat in prima retea putem observa ca exista conexiune catre masina linux aflata in a doua retea.
- Dar daca dam ping de pe cea de a doua masina catre prima nu vom reusi.



```
root@box:/home/gns3# ping 192.168.2.254
PING 192.168.2.254 (192.168.2.254): 56 data bytes
64 bytes from 192.168.2.254: seq=0 ttl=62 time=2.448 ms
64 bytes from 192.168.2.254: seq=1 ttl=62 time=2.947 ms
^C
--- 192.168.2.254 ping statistics ---
2 packets transmitted, 2 packets received, 0% packet loss
round-trip min/avg/max = 2.448/2.697/2.947 ms
root@box:/home/gns3#
```



```
root@box:/home/gns3# ping 192.168.1.254
PING 192.168.1.254 (192.168.1.254): 56 data bytes
^C
--- 192.168.1.254 ping statistics ---
3 packets transmitted, 0 packets received, 100% packet loss
root@box:/home/gns3#
```


Adaugarea Rutelor

- Asa cum am facut prima retea, o vom face pe a doua in oglinda cu prima. Tot asa, vom face si rutarea. Deci, vom adauga o ruta statica pe Mikrotik2.
- La Dst. Address setam reteaua primului router: 192.168.1.0/24
- La Gateway setam IP-ul WAN al primului router: 172.21.184.198
- Daca dam acum ping in linux-ul din primul LAN putem vedea ca avem un raspuns.

The screenshot shows the 'Route' configuration window in Mikrotik WinBox. The title bar reads 'Route <192.168.1.0/24>->172.21.184.198'. The 'General' tab is selected. The configuration fields are as follows: 'Dst Address' is '192.168.1.0/24', 'Gateway' is '172.21.184.198', 'Immediate Gateway' is '172.21.184.198%ether1', 'Local Address' is empty, 'Check Gateway' is a dropdown menu, and there is an unchecked checkbox for 'Suppress Hw Offload'. Below these are 'Distance' (1), 'Scope' (30), and 'Target Scope' (10). Further down are 'VRF Interface' (dropdown), 'Routing Table' (main), and 'Pref. Source' (dropdown). At the bottom is an unchecked checkbox for 'Blackhole'. On the right side, there are buttons: 'OK', 'Cancel', 'Apply', 'Disable', 'Comment', 'Copy', and 'Remove'. At the very bottom, there are tabs: 'enabled', 'active', 'static', 'Hw Offload', and 'ECMP'.

```
root@box:/home/gns3# ping 192.168.1.254
PING 192.168.1.254 (192.168.1.254): 56 data bytes
^C
--- 192.168.1.254 ping statistics ---
3 packets transmitted, 0 packets received, 100% packet loss
root@box:/home/gns3# ping 192.168.1.254
PING 192.168.1.254 (192.168.1.254): 56 data bytes
64 bytes from 192.168.1.254: seq=0 ttl=62 time=2.343 ms
64 bytes from 192.168.1.254: seq=1 ttl=62 time=2.293 ms
64 bytes from 192.168.1.254: seq=2 ttl=62 time=2.135 ms
64 bytes from 192.168.1.254: seq=3 ttl=62 time=2.329 ms
^C
--- 192.168.1.254 ping statistics ---
4 packets transmitted, 4 packets received, 0% packet loss
round-trip min/avg/max = 2.135/2.275/2.343 ms
root@box:/home/gns3#
```