

Laboratoare Retelistica

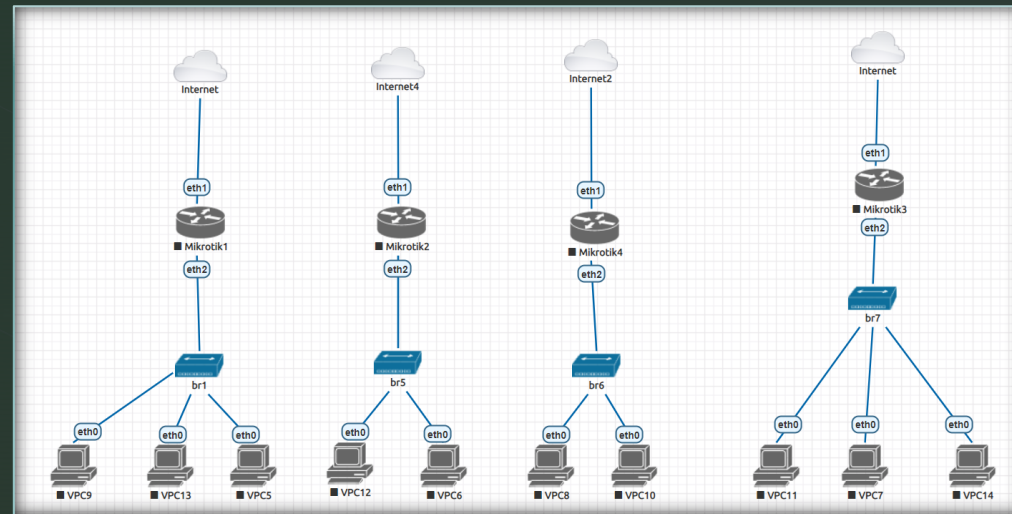


# Setarea tunelului VXLAN

# Topologie

In topologia din imaginea alaturata avem 4 zone remote pe care vrem sa le unim intr-un singur LAN.

Vom folosi tunelul VXLAN pentru a extrinde reseaua locala de la routerul MikroTik1 la celelate.



# Configurare MikroTik1

- In Interfaces-> VXLAN facem o noua interfata VXLAN.
- Acolo trebuie sa setam un port si un VNI care este asemanator cu VLAN ID.
- Acesta va actiona ca un conector de LAN sau ca un server la care se vor conecta celelate routere.
- Acum vom face un bridge unde vom adauga interfetele de LAN si VXLAN-ul facut.

Interface <vxlan1>

General | Loop Protect | Status | Traffic

Name: vxlan1

Type: VXLAN

MTU: 1500

Actual MTU: 1500

L2 MTU: 65535

MAC Address: DA:59:E4:64:B8:23

ARP: enabled

ARP Timeout:

VNI: 10

Group:

Interface:

Port: 8472

Local Address:

VTEPS IP version: IPv4

VRF: main

enabled | running | slave | passthrough

OK  
Cancel  
Apply  
Disable  
Comment  
Copy  
Remove  
Torch  
Reset Traffic Counters

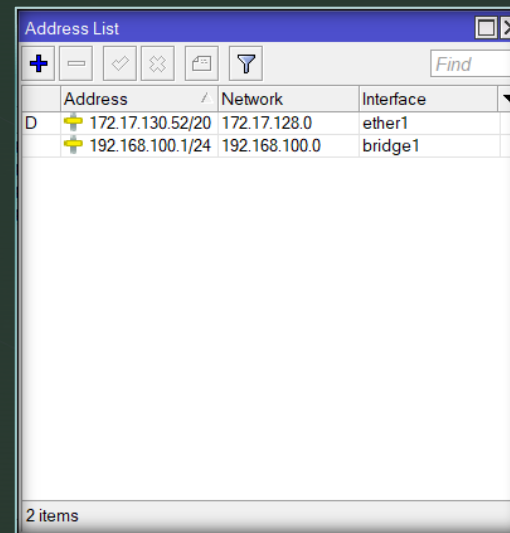
Bridge

Bridge | Ports | Port Extensions | VLANs | MSTIs | Port MST Overrides | Filters | NAT | Hosts | MDB

#	Interface	Bridge	Horizon	Trusted	Priority (h...	Path Cost	PVID	Role	Root Path...
0	ether2	bridge1	no	no	80	10	1	designated port	
1	ether3	bridge1	no	no	80	10	1	designated port	
2	ether4	bridge1	no	no	80	10	1	designated port	
3	vxlan1	bridge1	no	no	80	10	1	designated port	

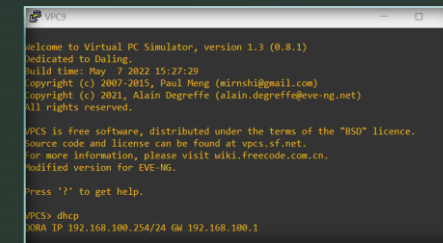
# Configurare MikroTik1

- Asigan bridge-ului o adresa ip si un server DHCP.
- Si putem deschide un calculator conectat (Ex: VPC9) si sa facem un request dhcp.



	Address	Network	Interface
D	172.17.130.52/20	172.17.128.0	ether1
	192.168.100.1/24	192.168.100.0	bridge1

2 items



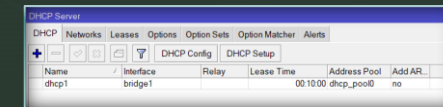
```

Welcome to Virtual PC Simulator, version 1.3 (0.8.1)
Dedicated to Daling.
Build time: May 7 2022 15:27:29
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For more information, please visit wiki.freecode.com.cn.
Modified version for EVE-NG.

Press '?' to get help.

VPCS> dhcp
KRA IP 192.168.100.254/24 GW 192.168.100.1
```



Name	Interface	Relay	Lease Time	Address Pool	Add AR
dhcp1	bridge1		00:10:00	dhcp_pool0	no

# Configurare MikroTik2

- Acest router va actiona ca un client care se conecteaza la VXLAN-ul MikroTik1.
- Ca si la primul setup vom face o interfata VXLAN cu acelasi VNI(10).
- Dup care intram in Interfata VTEP unde adaugam o noua conexiune aici trebuie sa punem ip-ul de WAN al primului router si portul setat in VXLAN

Interface <vxlan1>

General Loop Protect Status Traffic

Name: vxlan1

Type: VXLAN

MTU: 1500

Actual MTU: 1500

L2 MTU: 65535

MAC Address: FE:00:05:99:BA:3D

ARP: enabled

ARP Timeout:

VNI: 10

Group:

Interface:

Port: 8472

Local Address:

VTEPS IP version: IPv4

VRF: main

enabled running slave passthrough

OK Cancel Apply Disable Comment Copy Remove Torch Reset Traffic Counters

Interface List

Interface Interface List Ethernet EoIP Tunnel IP Tunnel GRE Tunnel VLAN VXLAN VRRP VETH MACsec Bonding LTE VRF

+ - ✓ ✗ VTEP

Name	Type	MTU	Actual MTU	L2 MTU	VNI	Tx	Rx	Tx Packets
vxlan1	VXLAN	1500	1500	65535	10	0 bps	0 bps	0 bps

VTEP

Interface: vxlan1

Remote ip: 172.17.130.52

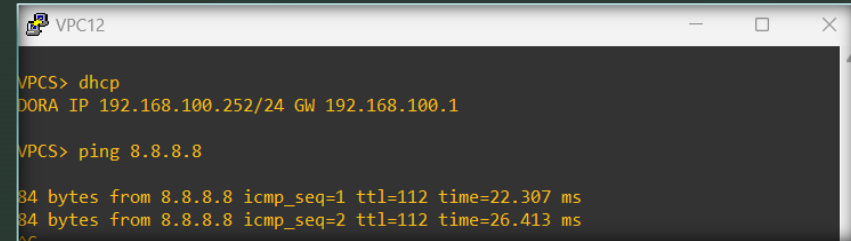
Port: 8472

OK Cancel Apply Copy Remove

1 item (1 selected)

# Configurare MikroTik2

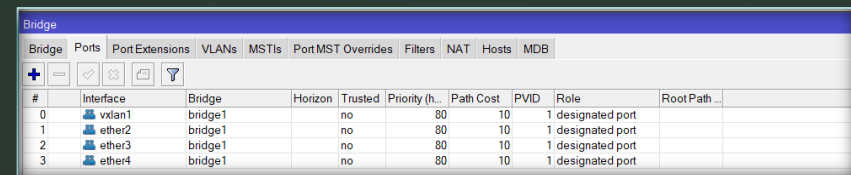
- Pe primul router adaugam si acolo un VTEP cu adresa celui de al 2 lea
- Dupa care facem si aici un bridge unde legam VXLAN-ul de interfetele fizice.
- Testam cu un VPC conectat la router.



```
VPC12
VPCS> dhcp
DORA IP 192.168.100.252/24 GW 192.168.100.1

VPCS> ping 8.8.8.8

84 bytes from 8.8.8.8 icmp_seq=1 ttl=112 time=22.307 ms
84 bytes from 8.8.8.8 icmp_seq=2 ttl=112 time=26.413 ms
```



#	Interface	Bridge	Horizon	Trusted	Priority (h...)	Path Cost	PVID	Role	Root Path ...
0	vxlan1	bridge1		no	80	10	1	designated port	
1	ether2	bridge1		no	80	10	1	designated port	
2	ether3	bridge1		no	80	10	1	designated port	
3	ether4	bridge1		no	80	10	1	designated port	



# Configurare MikroTik3 si 4

Repetam procesele pe routerul 3 si  
4.

```
VPC11

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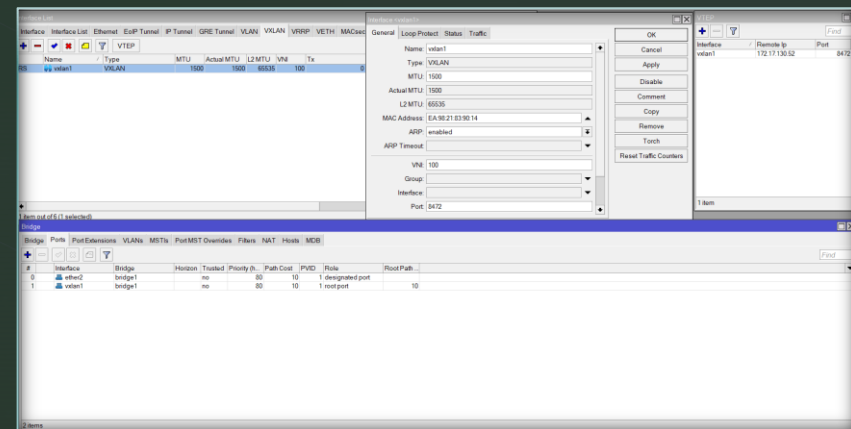
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For more information, please visit wiki.freecode.com.cn.
Modified version for EVE-NG.

Press '?' to get help.

VPCS> dhcp
DORA IP 192.168.100.251/24 GW 192.168.100.1

VPCS> ping 8.8.8.8

64 bytes from 8.8.8.8 icmp_seq=1 ttl=112 time=28.752 ms
64 bytes from 8.8.8.8 icmp_seq=2 ttl=112 time=23.875 ms
```



# Testarea Tunelului

- Putem monitoriza cu Wireshark interfata de WAN a routerului 1 si sa dam un ping de pe un VPC din alt router (in cazul meu routerul 3).
- Si vedeam ca iesim prin routerul 1.

The screenshot displays a network simulation environment with three main windows:

- Wireshark:** Capturing ICMP traffic on the 'icmp' filter. The packet list shows a series of ping requests and replies between 172.17.130.52 and 8.8.8.8.
- VPCS1:** A terminal window showing the VPCS command-line interface. It displays the IP address 192.168.100.251/24 and the results of a ping command to 8.8.8.8, showing successful replies with TTL values.
- WinBox:** The Mikrotik WinBox configuration interface. It shows the 'Address List' configuration for the 'ether1' interface, with two entries: 172.17.130.52/20 and 192.168.100.1/24.

The bottom status bar of the WinBox window indicates 'Packets: 754 - Displayed: 8 (1.1%)' and 'Profile: Default'.