ΤΟΠΟΛΟΓΙΑ 1   (Debian 12.4-1 , R2, R3, R1, NAT1)

R1

```
/system identity set name=R1
/interface bridge add name = loopback0
/ ip address add address = 10.255.255.1 /32    interface = loopback0
/ ip address add address= 110.4.97.1 / 30      interface = ether2 (προς R3)
/ ip address add address= 110.4.97.5/30        interface = ether3 (προς R2)
```

R2

```
/system identity set name=R2
/interface bridge add name = loopback0
/ ip address add address = 10.255.255.2 /32    interface = loopback0
/ ip address add address= 110.4.97.2/ 30       interface = ether1 (προς R1)
/ ip address add address= 110.4.97.9/30        interface = ether2 (προς R3)
/ip address add address = 110.4.97.13/30       interface= ether3 (προς Debian)
```

R3

```
/system identity set name=R3
/interface bridge add name = loopback0
/ ip address add address = 10.255.255.3 /32    interface = loopback0
/ ip address add address= 110.4.97.6/ 30       interface = ether1 (προς R1)
/ ip address add address= 110.4.97.10/30       interface = ether2 (προς R2)
```

- check ότι όλα ip/route/ print   και   ip/address/ print

R1 → ping   97.2 ✓   97.9 ✗   + ping 8.8.8.8 ✓
              97.6 ✓   97.10 ✗   + 10.255.255.1 ✓

R2 → ping   97.1 ✓   97.5 ✗   + 10.255.255.2 ✓
              97.10 ✓   97.6 ✗

R3 → ping   97.5 ✓   97.1 ✗   + 10.255.255.3 ✓
             97.9 ✓   97.2 ✗

OSPF

R1

/routing/ospf/instance/ add name=default router-id = 10.255.255.1   } 1 γραμμή
   originate-default = if-installed redistribute = ospf, bgp, connected
/routing/ospf/area/ add name = backbone area-id = 0.0.0.0 instance = default
/routing/ospf/interface-template add network = 110.4.97.0/30 area=backbone
/routing/ospf/interface-template add network = 110.4.97.4/30 area=backbone
/ip/firewall/nat/ add chain=srcnat action=masquerade out-interface = ether1 }
       (αρραίεης όλη /)   ↓ NAT

R2

/routing/ospf/instance/ add name=default router-id = 10.255.255.2   } 1 γραμμή
   originate-default = if-installed redistribute = ospf, bgp, connected
/routing/ospf/area/ add name = backbone area-id = 0.0.0.0 instance = default
/routing/ospf/interface-template add network = 110.4.97.0/30 area=backbone
/routing/ospf/interface-template add network = 110.4.97.8/30 area=backbone
/routing/ospf/interface-template add network = 110.4.97.12/30 area=backbone

R3

/routing/ospf/instance/ add name=default router-id = 10.255.255.3   } 1 γραμμή
   originate-default = if-installed redistribute = ospf, bgp, connected
/routing/ospf/area/ add name = backbone area-id = 0.0.0.0 instance = default
/routing/ospf/interface-template add network = 110.4.97.4/30 area=backbone
/routing/ospf/interface-template add network = 110.4.97.8/30 area=backbone

                                                              disable=no
dhcp-server στο R2   (από chat) ▬▬▬▬▬   ⌐
/ip pool add name=dhcp-pool ranges = 110.4.97.14 - 110.4.97.14
/ip dhcp-server add name= dhcp1 address-pool = dhcp_pool interface = ether3

lip dhcp-server network add address=110.4.97.12/30   gateway = 110.4.97.13

lip dhcp-server enable dhcp1

dns-server = 8.8.8.8

Debian1

sudo ip link set ens4 up

sudo dhclient ens4

(ip a και βγάζει σω ens4 δίνει πιο κάτω   110.4.97.14/30)

ΕΡΩΤΗΣΕΙΣ

- ping όσα δεν έβγαιναν πριν δηλαδή.

R1 → ping 97.9 ✓

          97.10 ✓

R2 → ping 97.5 ✓

          97.6 ✓

R3 → ping 97.1 ✓

          97.2 ✓

- Ναι

- Ναι   → έχει κάνει λάθος

- tool / traceroute   (απάντηση screenshot lap top)

- βγάζει 10 και το 1ο είναι 110.4.97.1

- Αφαίρεσε τη σύνδεση μεταξύ R1-R2

  Εννοεί να αφαιρέσεις το καλώδιο → δεν το έκανα

- Debian

- sudo traceroute -n -I 10.255.255.1   Debian → R2 → R1 (2 αποσ)

-sudo traceroute -n -I 8.8.8.8   Debian → R2 → R1 → Internet (11 αποσ)

ΤΟΠΟΛΟΓΙΑ 2 (Υλοποίηση διασύνδεσης δικτύων με χρήση του Border Gateway Protocol)

R1

```
/ip address add address = 192.168.5.1/30 interfac = ether4
/routing/bgp/template/ add name=bgp-template router-id = 10.255.255.1 as=11049
output.redistribute = static, ospf, bgp routing-table = main      1 γραμμή
/routing/bgp/connection/ add name = toR4 remote.address = 192.168.5.2
remote.as = 11149 templates = bgp-template local.port=179 remote.port= 179
listen = yes connect=yes output.default-originate = if-installed
local.role= ebgp keepalive-time = 60s                            1 γραμμή
/routing/bgp/connection/print
```

R4

```
/system identity set name=R4
/interface bridge add name = loopback0
/ip address add address = 10.255.255.4/32 interface= loopback0
/ip address add address= 192.168.5.2/30 interface= ether 1 (προς R1)
/ip address add address= 111.4.97.1/30 interface= ether 2 (προς R5)
/ip address add address= 111.4.97.5/30 interface= ether3 (προς R6)
/routing/bgp/ template/ add name=bgp-template router-id = 10.255.255.4 as=11149
output.redistribute =static, ospf, bgp routing-table=main
/routing/bgp/connection/ add name= toR1 remote.address = 192.168.5.1
remote.as= 11049 templates = bgp-template local.port= 179 remote.port= 179
listen=yes connect=yes output.default-originate=if-installed
local.role = ebgp keepalive-time = 60s
/routing/bgp/connection/print
/routing/ospf/instance/ add name=default router-id = 10.255.255.4   } 1 γραμμή
   originate-default = if-installed redistribute=ospf, bgp, connected
/routing/ospf/area/ add name = backbone2 area-id= 2.2.2.2 instance = default
/routing/ospf/interface-template add network= 192.168.5.0/30 area=backbone2
```

/routing/ospf/interface-template add network = 111.4.97.0/30 area=backbone2
/routing/ospf/interface-template add network = 111.4.97.4/30 area=backbone2

R5

/system identity set name = R5
/interface bridge add name = loopback0
/ip address add address = 10.255.255.5/32 interface = loopback0
/ip address add address = 111.4.97.2/30 interface = ether1 (npos R4)
/ip address add address = 111.4.97.9/30 interface = ether2 (npos R6)
/ip address add address = 111.4.97.13/30 interface = ether3 (npos Debian)
/routing/ospf/instance/ add name=default router-id = 10.255.255.5   } 1 ураіні
   originate-default = if-installed redistribute = ospf, bgp, connected
/routing/ospf/area/ add name = backbone2 area-id = 2.2.2.2 instance = default
/routing/ospf/interface-template add network = 111.4.97.0/30 area=backbone2
/routing/ospf/interface-template add network = 111.4.97.8/30 area=backbone2
/routing/ospf/interface-template add network = 111.4.97.12/30 area=backbone2

/ip pool add name=dhcp_pool ranges = 111.4.97.14 - 111.4.97.14
/ip dhcp-server add name= dhcp2 address-pool= dhcp_pool interface = ether3 ⟩
                    dhcp1   disable = no

/ip dhcp-server network add address= 111.4.97.12/30 gateway = 111.4.97.13 ⟩
/ip dhcp-server enable dhcp2   dns-server = 8.8.8.8

R6

/system identity set name = R6
/interface bridge add name = loopback0
/ip address add address = 10.255.255.6/32 interface = loopback0
/ip address add address = 111.4.97.6/30 interface = ether1 (npos R4)
/ip address add address = 111.4.97.10/30 interface = ether2 (npos R5

/routing /ospf /instance/ add name=default router-id = 10.255.255.6 } 1 γραμμή
    originate - default = if -installed redistribute =ospf , bgp, connected
/routing/ospf/area/ add name = backbone2 area-id= 2.2.2.2 instance = default
/routing /ospf /interface- template add network = 111.4.97.4/30 area=backbone2
/routing /ospf /interface- template add network = 111.4.97.8/30 area=backbone2

Debian 2

sudo ip link set ens4 up
sudo dhclient ens4
(ip a και βρήξει cco ens4 διχο πιο cαicw 111.4.97.14/30)

R5

/routing/ bgp / template/ add name =bgp - template router-id = 10.255.255.5 as = 11104 }
output. redistribute = static, ospf , bgp routing- table = main   1 γραμμή
/routing/ bgp/ connection/ add name = toR4 remote.address = 111.4.97.1
remote.as = 11104 templates = bgp - template local.port = 179 remote. port= 179
listen =yes connect =yes output. default -originate =if -installed
local . role= ibgp keepalive - time = 60s   1 γραμμή
/routing / bgp / connection /print

R4

/routing/ bgp/ connection/ add name = toR5 remote.address = 111.4.97.2
remote.as = 11104 templates = bgp - template local.port = 179 remote. port= 179
listen =yes connect =yes output. default -originate = if -installed
local . role= ibgp keepalive - time = 60s   1 γραμμή
/routing / bgp / connection /print