KONFIGURIRANJE MREŽE MEĐU (VIRTUALNIM) RAČUNALIMA

Konfiguracija računalnih mreža i servisa – Vježbe

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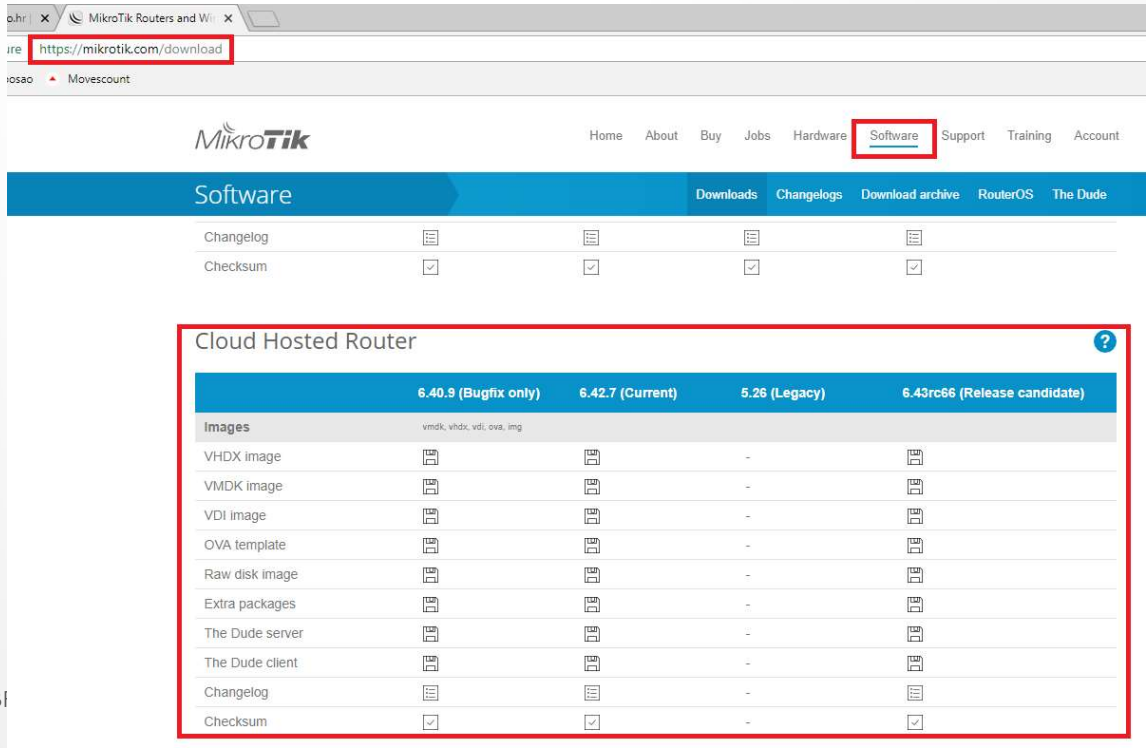
v2.0

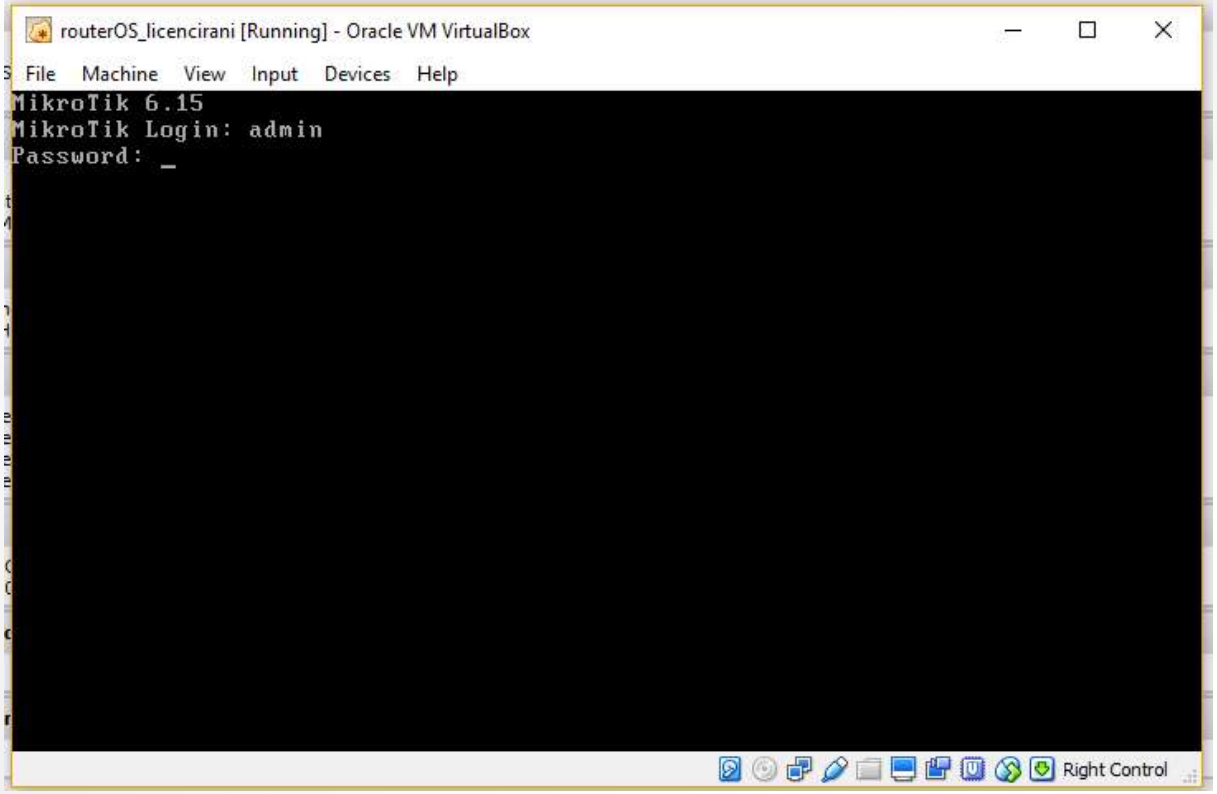
ROUTEROS

- operacijski sustav za mikrotik uređaje
- može biti virtualiziran – CHR
  - cloud hosted router
- www.mikrotik.com



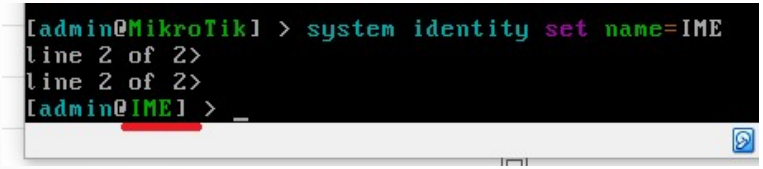
CHR - PRISTUPANJE

- inicijalni podaci
- korisničko ime: **admin**
- lozinka: **(ništa)**
- moguće pristupiti koristit GUI
  - winbox



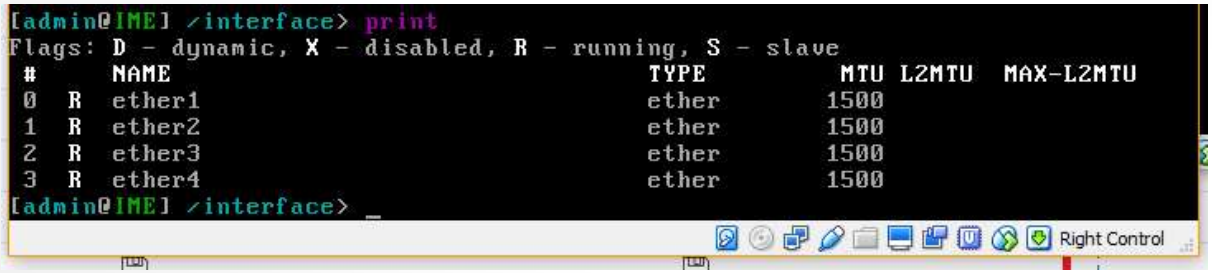
CHR – POSTAVLJANJE IDENTITETA

- resetiranje svih postavki (oprez!)
  - system reset-configuration no-defaults=yes (enter) (y)
- system -> identity -> set name=ŽELJENO_IME



CHR – LISTA SUČELJA

- interface print (enter)



CHR –IP ADRESE

- ispis svih IP adresa
  - ip address print

```
[admin@IME] > ip address print
Flags: X - disabled, I - invalid, D - dynamic
 #   ADDRESS            NETWORK         INTERFACE
 0   192.168.1.1/24     192.168.1.0     ether2
[admin@IME] > _
```

- postavljanje IP adrese
  - ip address add address=IPadresa/MreznaMaska interface=SUCELJE

```
[admin@IME] > ip address add address=192.168.66.3/24 interface=ether2 disabled=n
o
[admin@IME] > ip ad pr
Flags: X - disabled, I - invalid, D - dynamic
 #   ADDRESS            NETWORK         INTERFACE
 0   192.168.1.1/24     192.168.1.0     ether2
 1   192.168.66.3/24    192.168.66.0    ether2
[admin@IME] > _
```

CHR – TESTIRANJE

- ping
  - ping IP_ADRESA
  - zaustavljanje **Ctrl+C**
- pregled „susjedstva”
  - ip neighbor print

```
[dude@baza - zld] > ping 10.0.0.2
  SEQ HOST                                     SIZE TTL TIME  STATUS
    0 10.0.0.2                                   56  64 3ms
    1 10.0.0.2                                   56  64 3ms
    2 10.0.0.2                                   56  64 3ms
    3 10.0.0.2                                   56  64 9ms
    4 10.0.0.2                                   56  64 3ms
    sent=5 received=5 packet-loss=0% min-rtt=3ms avg-rtt=4ms max-rtt=9ms

[dude@baza - zld] >
```

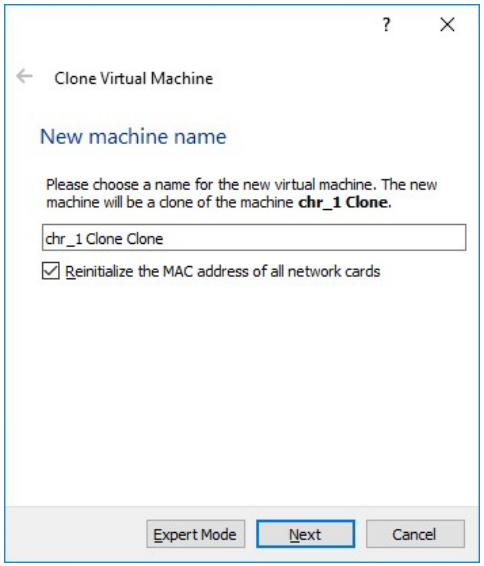
```
[dude@baza - zld] > ip neighbor print
 #  INTERFACE ADDRESS                                MAC-ADDRESS
 0  sfp.Ca... 10.250.0.2                             CC:2D:E0:B9:C3:5E
 1  ether2... 10.251.3.1                             4C:5E:0C:8E:2F:1D
 2  ether2... 10.251.3.2                             4C:5E:0C:86:39:C3
 3  ether3...                                        E4:8D:8C:7C:E5:A4
 4  linkPo... 10.251.1.2                             4C:5E:0C:8E:2F:1B
 5  linkBr... 10.251.1.3                             E4:8D:8C:7C:E5:A4
 6  BRDA_CORE                                        E4:8D:8C:7C:E5:A5
 7  BRDA_CORE 10.250.0.10                            4C:5E:0C:82:0F:63
 8  CHR_Mi... 172.16.17.1
[dude@baza - zld] >
```

ALATI

- virtualbox
- network adapter postavke
- VLAN tehnologija

PONOVIMO

- što je VLAN?
- koji su zahtjevi za korištenje VLAN tehnologije?
- Ne zaboravi **reinicijalizirati** MAC adresu prilikom kloniranja



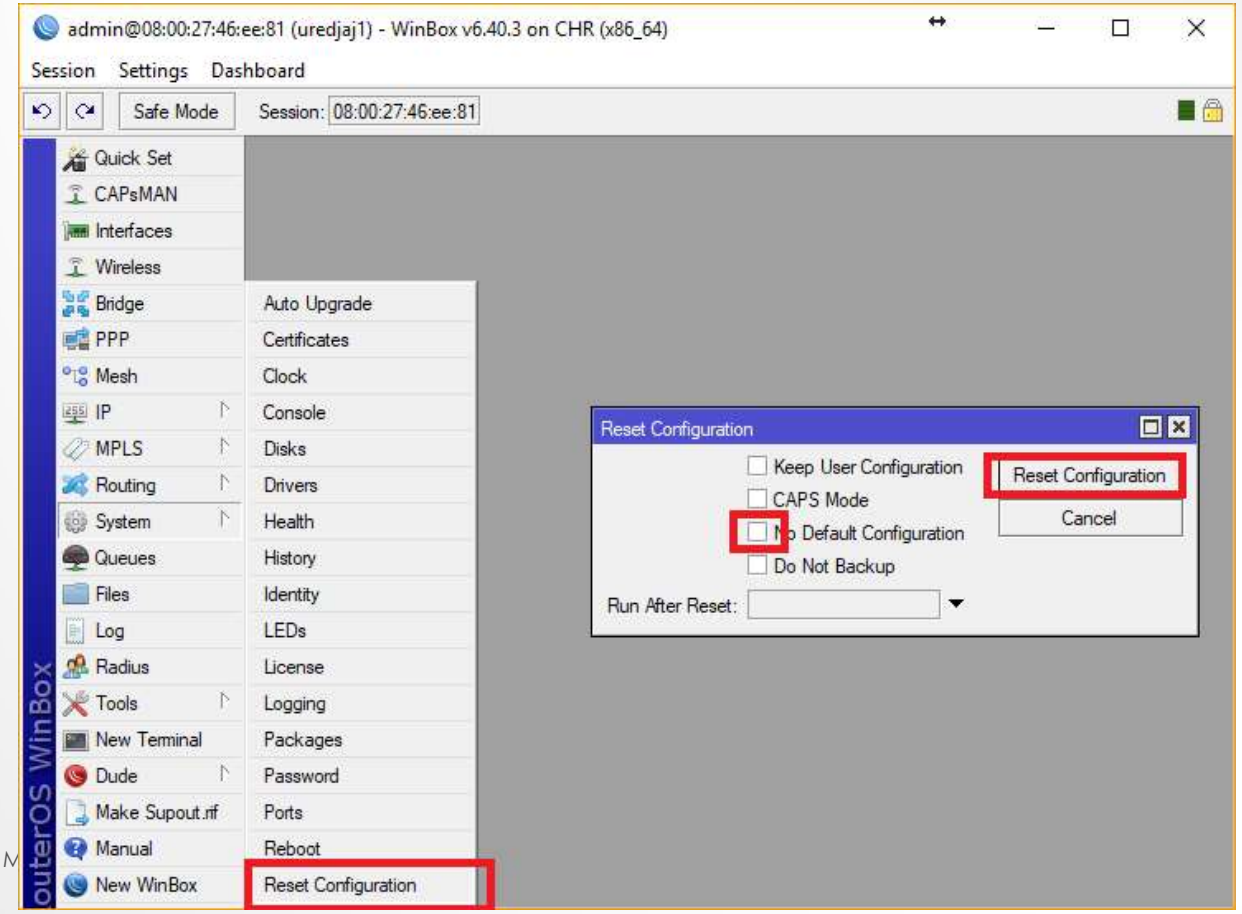
IZRAVNO SPAJANJE – INTERNAL NETWORK

- Adapter 1 – Host-Only Adapter
- Adapter 2 – internal network
  - name: ether2
  - Advanced-> Adapter type: **Paravirtualized Network**
- pokrenuti strojeve
- prijaviti se (admin/NULL)

- upisati: interface ethernet print
- otvoriti Winbox i upisati MAC adresu ether2 adaptera
- kliknuti na connect

IZRAVNO SPAJANJE – INTERNAL NETW

- System – Reset Configuration
- Odabrati: No Default Configuration
- pričekati ponovno podizanje operativnog sistema

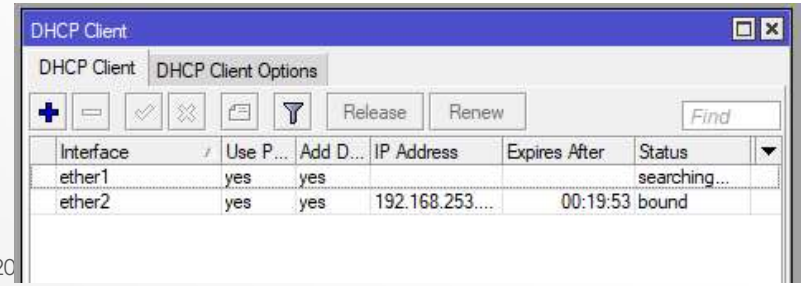


IZRAVNO SPAJANJE

- spojiti se alatom Winbox
- odabrati System – Identity
- postaviti identitet na: uredjaj01 tj uredjaj02

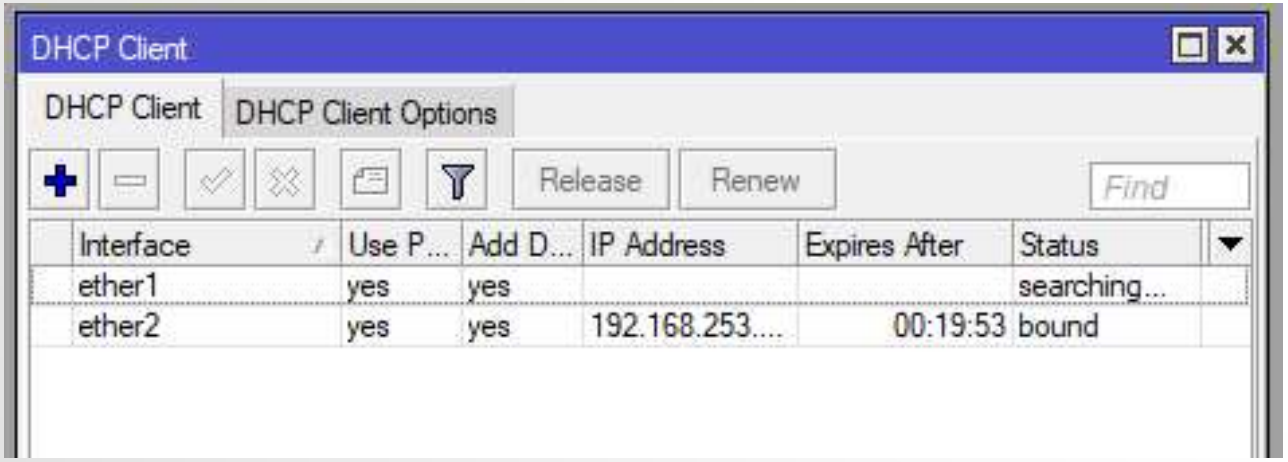
IZRAVNO SPAJANJE

- odabrati izbornik **Interfaces**
- potrebno odrediti koje sučelje je spojeno na Host-only adapter
  - na host only adapteru je uključen DHCP poslužitelj, tako da će to sučelje dobiti IP adresu
- odabrati IP -> DHCP Client
- na kartici DHCP Client odabrati plavi plus
- odabrati sučelje ether1 te kliknuti na OK
- ponoviti korake za ether2



IZRAVNO SPAJANJE

- sučelje koje *dobilo* IP adresu je spojeno na Host-Only adapter
- sučelje koje ***nije dobilo*** IP adresu je naša **internal network**
- u donjem primjeru, sučelje ether1 je spojeno na internal network, te od sada radimo *na njoj*

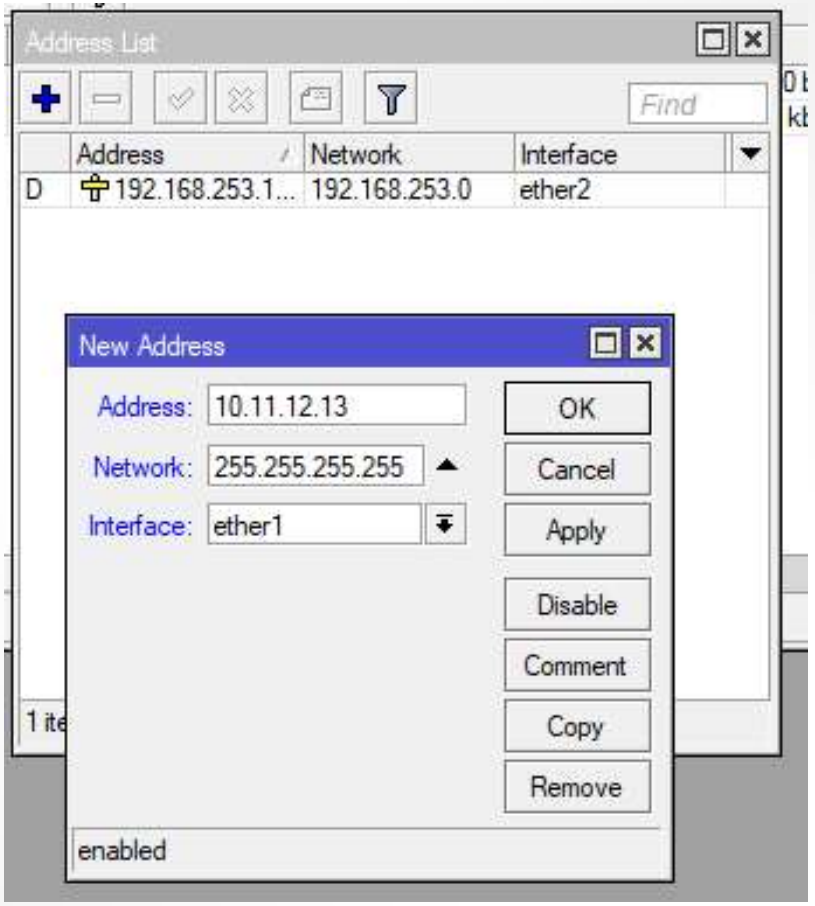


IZRAVNO SPAJANJE

- zadatak: dodati mrežne postavke (ip adresu, mrežnu masku) sučeljima **internal network** tako da uređaji mogu izravno komunicirati
- na uređaju1 etherX ima IP adresu: _____ A
  na uređaju1 etherX ima mrežnu masku: _____ B
- na uređaju2 etherX ima IP adresu: _____ C
  na uređaju2 etherX ima mrežnu masku: _____ D

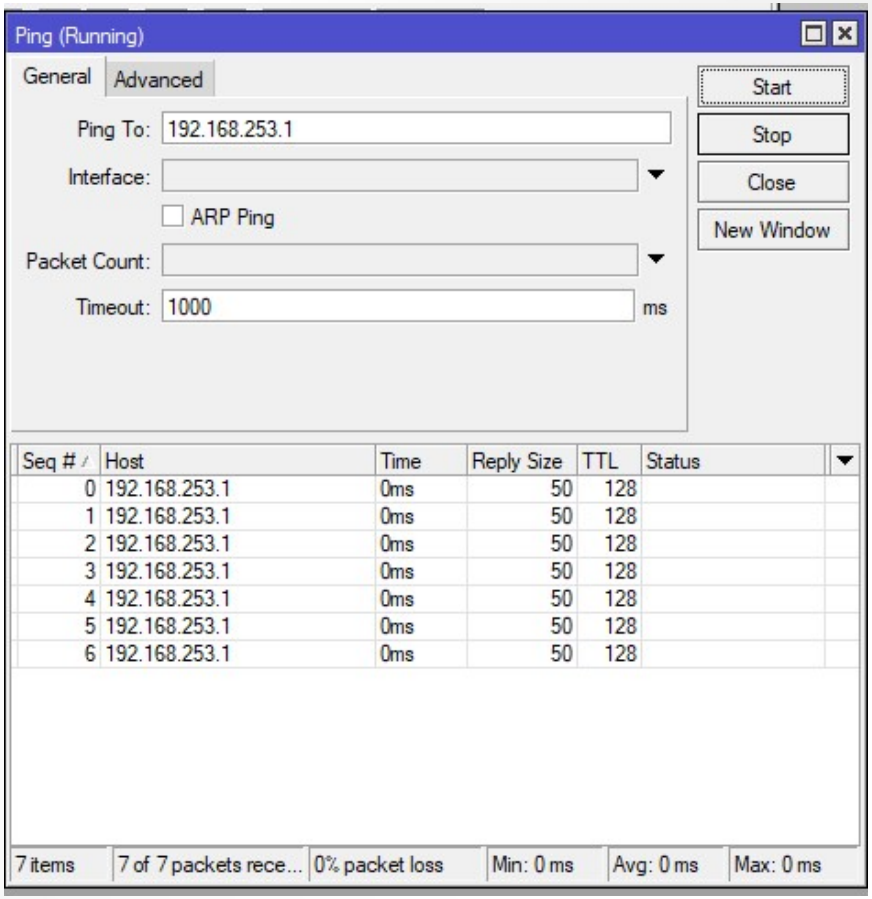
IZRAVNO SPAJANJE

- IP -> Addresses
- odabrati plavi plus
- uređaj1
  - Address: A (_____)
    Network: B (_____)
    Interface: etherX (_____)
- uređaj2
  - Address: A (_____)
    Network: B (_____)
    Interface: etherX (_____)



IZRAVNO POVEZIVANJE

- isprobaj na uređaju 1 dostupnost uređaja 2
- tools – ping
- Ping to: ip adresa C (npr 10.11.12.13) (bez mrežne maske!)



ZADATAK

- kreiraj novi virtualni stroj: krmis_03A_WINklijent01
  - krmis -> kratica predmeta, 03 -> tjedan, A->grupa, WINklijent01->prvi windows klijent
- omogući mu komunikaciju (ping) s **uredjaj1** i **uredjaj2**
- postupak napiši i u bilježnicu!