MIKROTIK LOAD BALANCING PCC + FAILOVER

Note : RB 450G

Load balancing 2 koneksi WAN/Speedy/ISP (lebih dari 2 koneksi config disesuaikan)

WAN1&WAN2 – Mikrotik – LAN

WAN1 : 192.168.100.1/24 (Rx. 5 Mbps & Tx. 1 Mbps)

WAN2 : 192.168.200.1/24 (Rx. 5 Mbps & Tx. 1 Mbps)

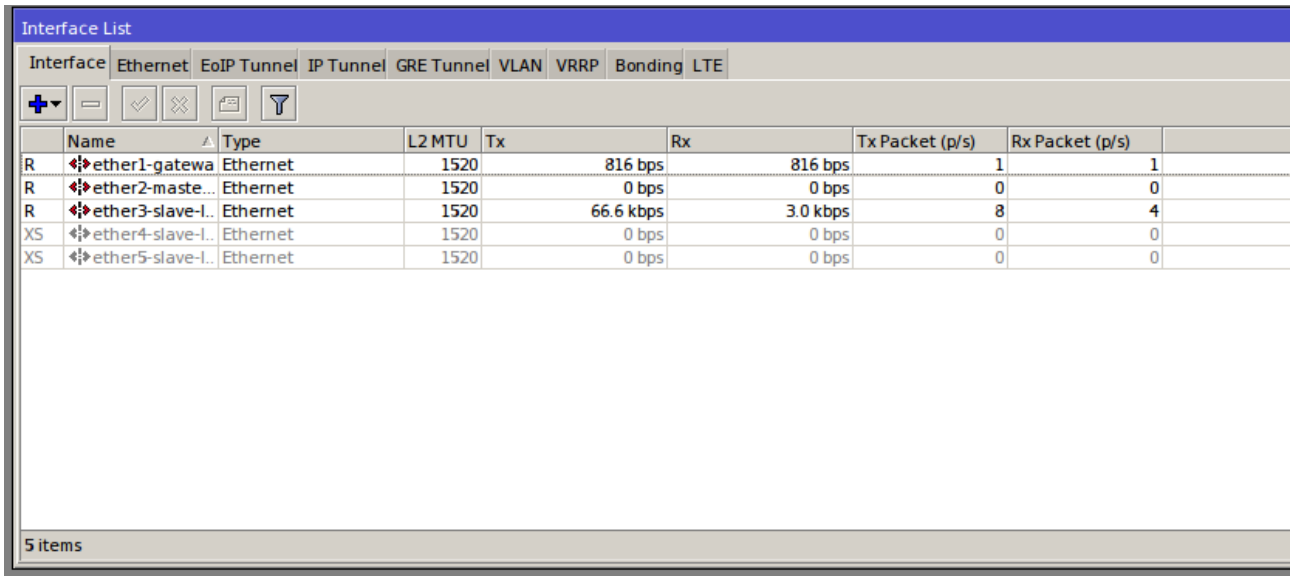
Mikrotik : eth1 192.168.100.5/24

eth2 192.168.200.5/24

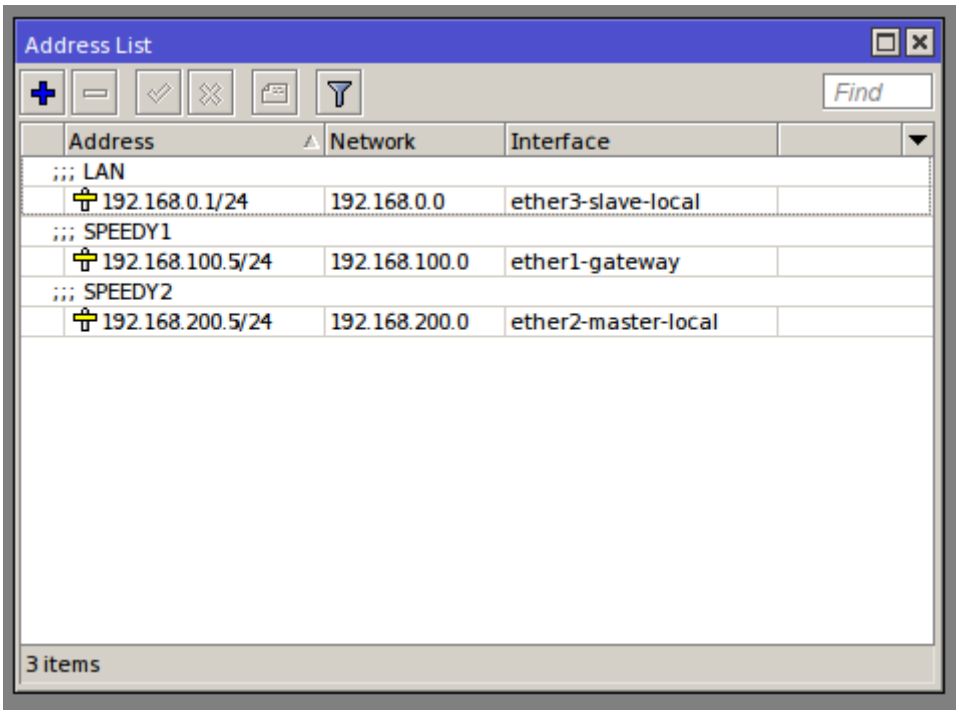
eth3 192.168.0.1/24

LAN : 192.168.0.0/24

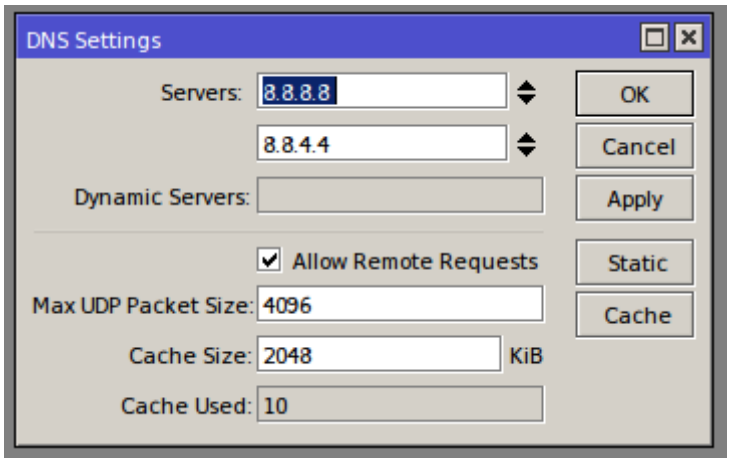
1. Set interface (disable yg tidak perlu).



2. Set ip address.

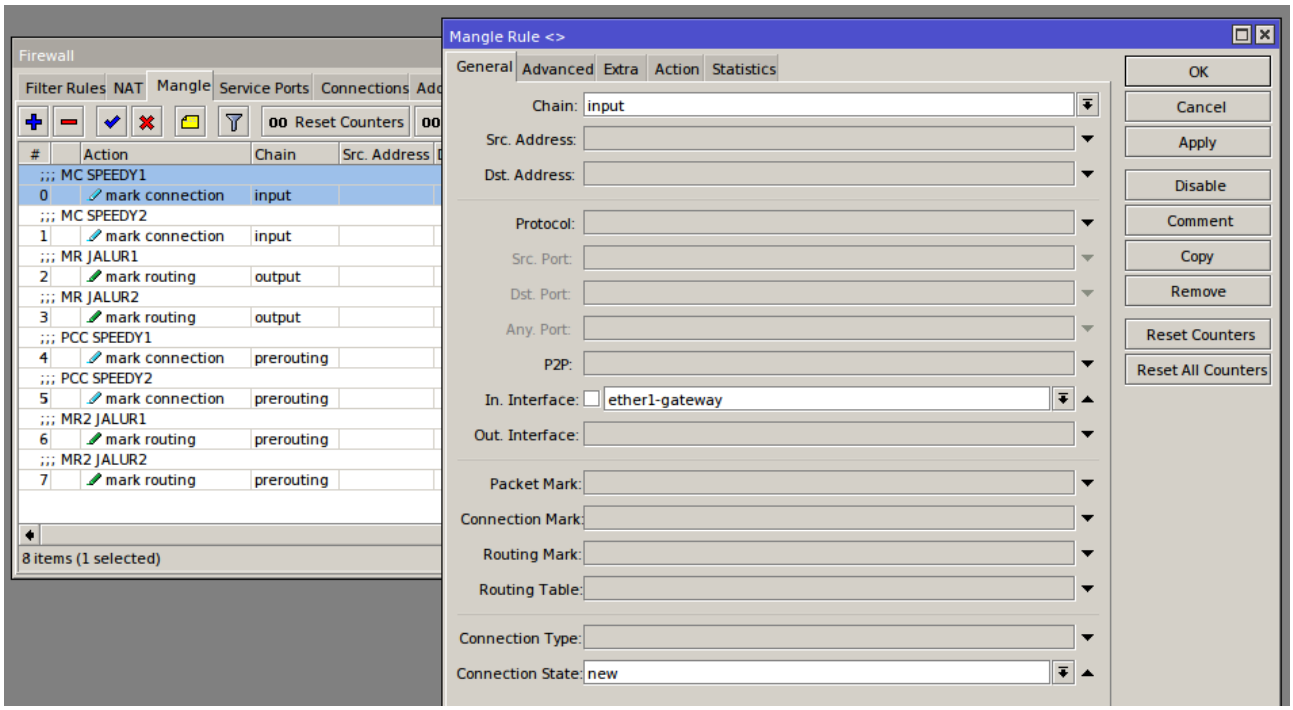


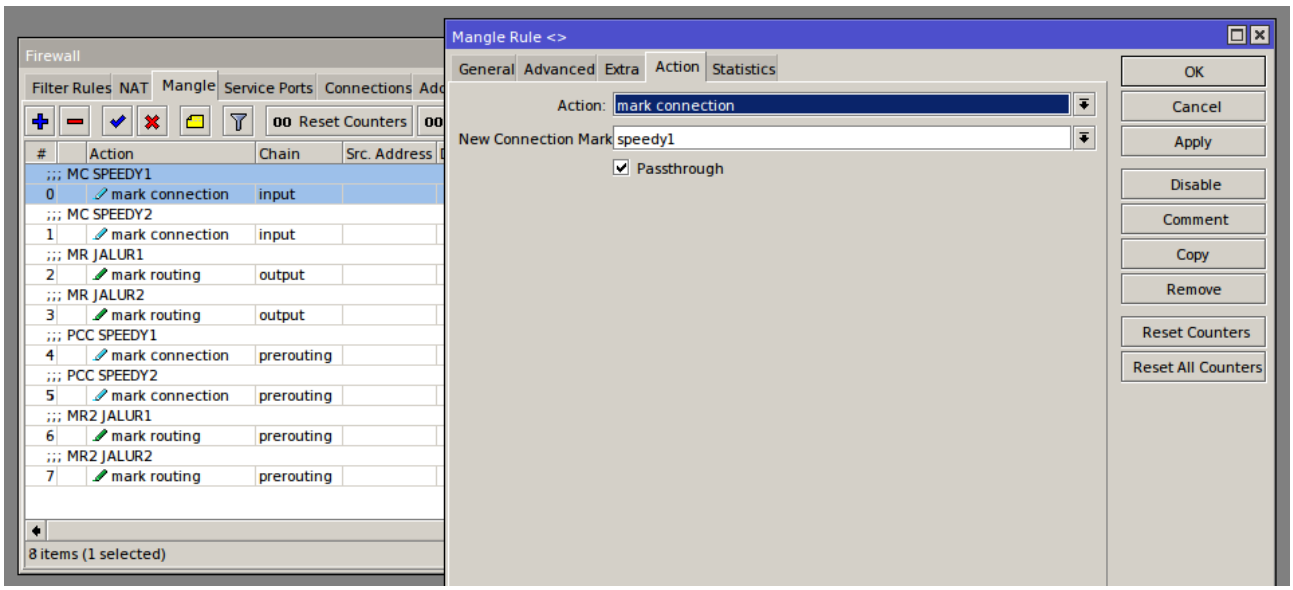
3. Set DNS server.



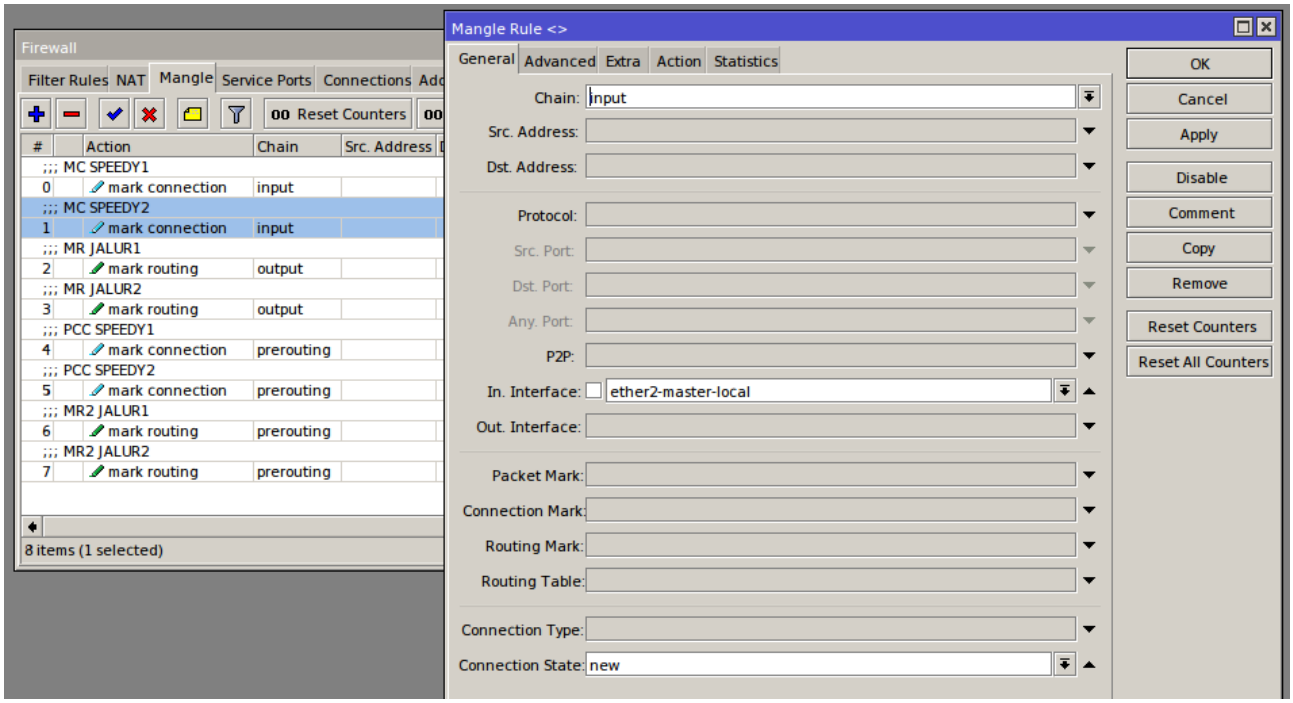
4. Set mangle rule.

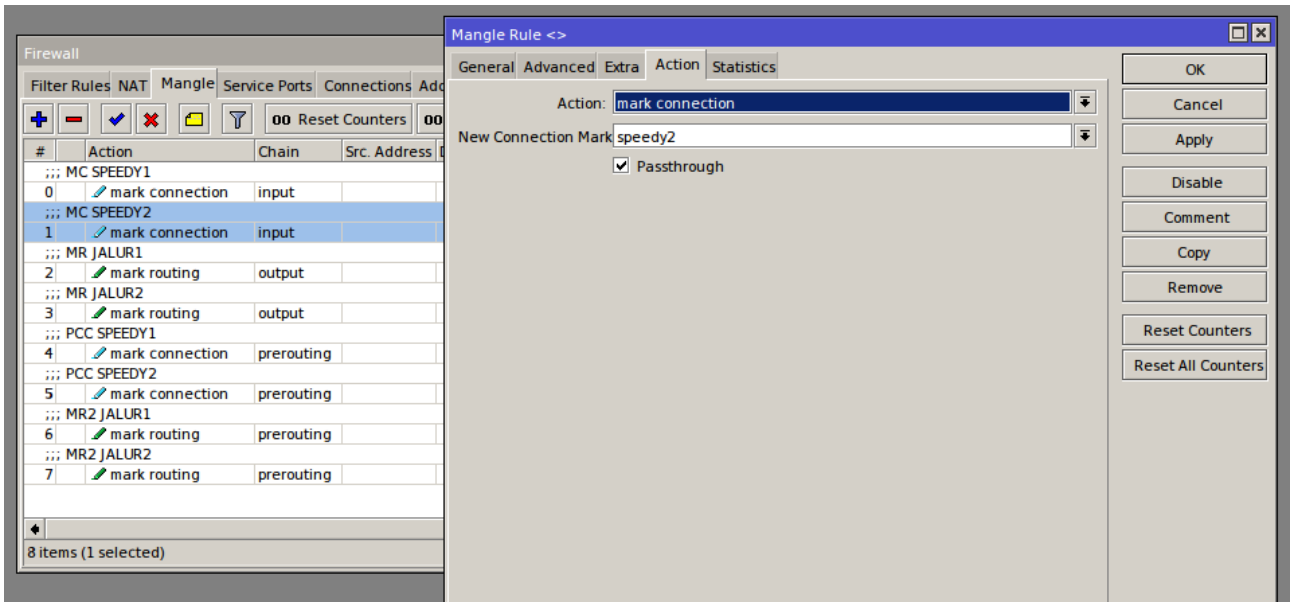
Rule1



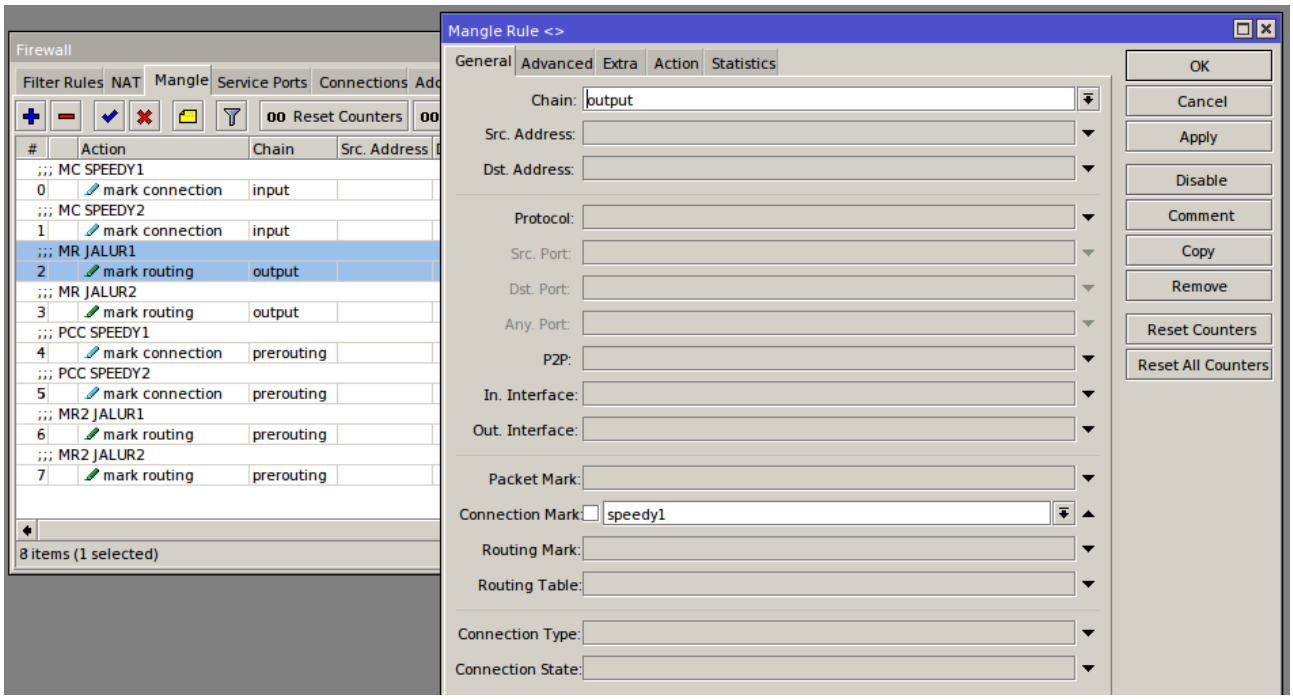


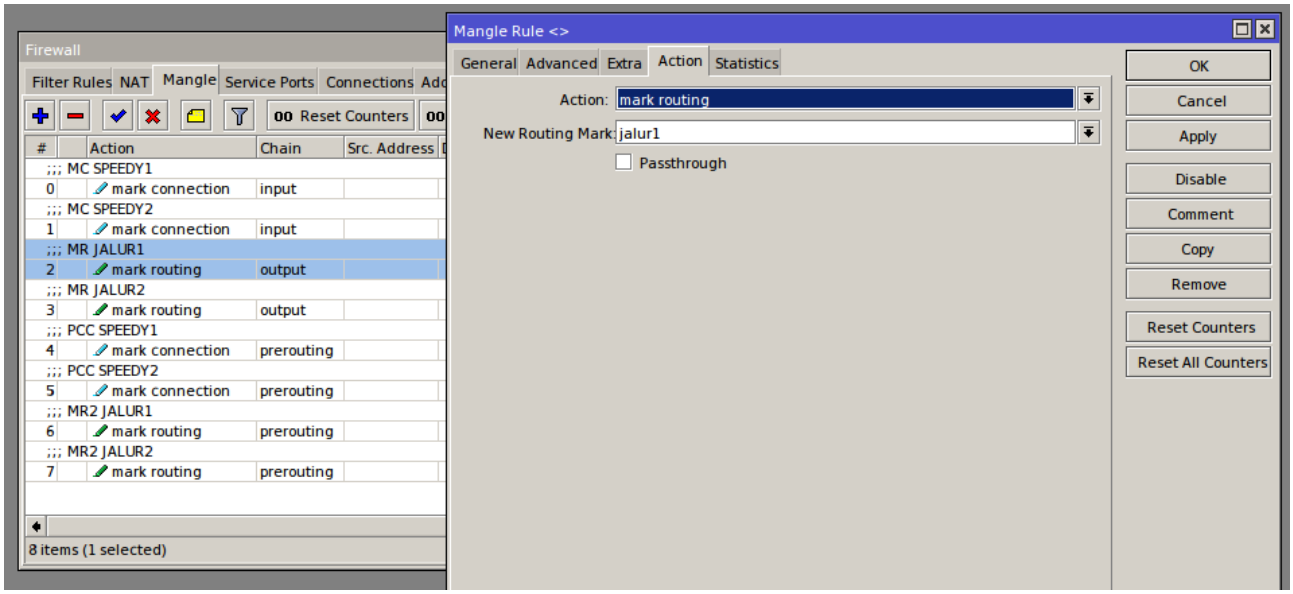
Rule2


Firewall
Filter Rules NAT Mangle Service Ports Connections
Reset Counters
Action Chain Src. Address
;;; MC SPEEDY1
0 mark connection input
;;; MC SPEEDY2
1 mark connection input
;;; MR JALUR1
2 mark routing output
;;; MR JALUR2
3 mark routing output
;;; PCC SPEEDY1
4 mark connection prerouting
;;; PCC SPEEDY2
5 mark connection prerouting
;;; MR2 JALUR1
6 mark routing prerouting
;;; MR2 JALUR2
7 mark routing prerouting
8 items (1 selected)
Mangle Rule <>
General Advanced Extra Action Statistics
Chain: input
Src. Address:
Dst. Address:
Protocol:
Src. Port:
Dst. Port:
Any. Port:
P2P:
In. Interface: ether2-master-local
Out. Interface:
Packet Mark:
Connection Mark:
Routing Mark:
Routing Table:
Connection Type:
Connection State: new
OK
Cancel
Apply
Disable
Comment
Copy
Remove
Reset Counters
Reset All Counters

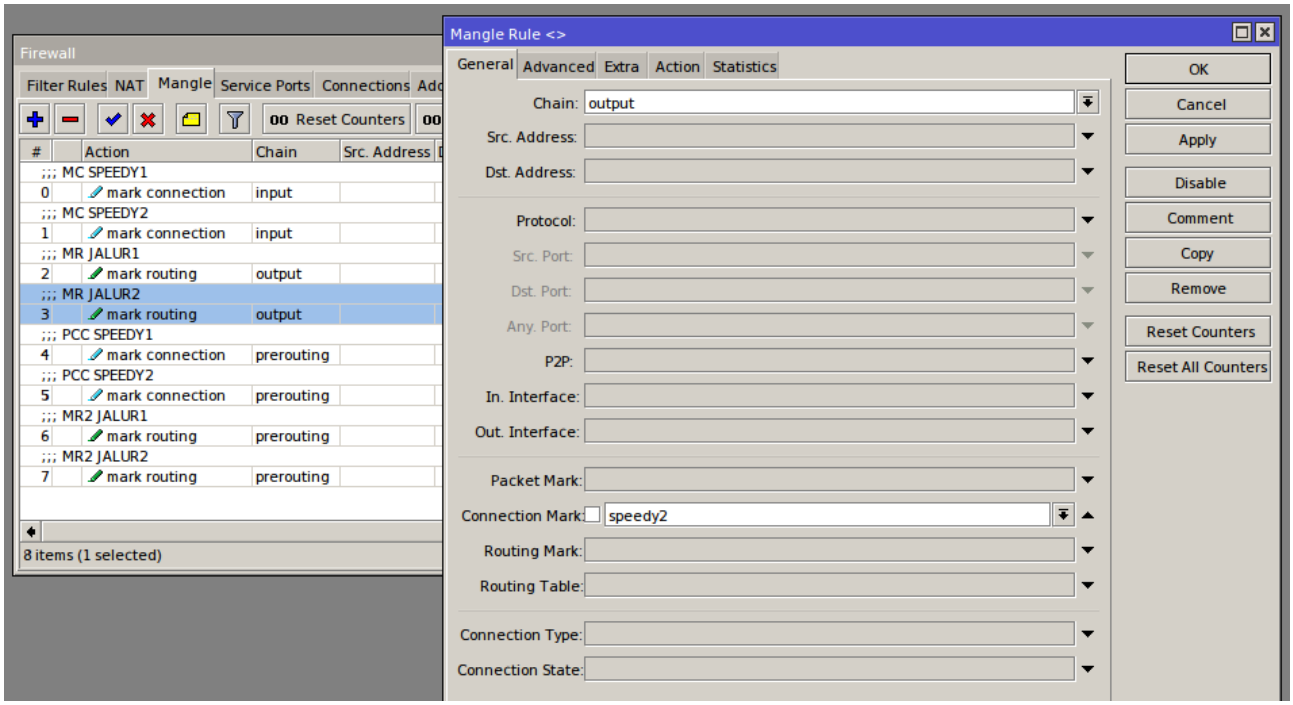

Firewall
Filter Rules NAT Mangle Service Ports Connections
Reset Counters
Action Chain Src. Address
;;; MC SPEEDY1
0 mark connection input
;;; MC SPEEDY2
1 mark connection input
;;; MR JALUR1
2 mark routing output
;;; MR JALUR2
3 mark routing output
;;; PCC SPEEDY1
4 mark connection prerouting
;;; PCC SPEEDY2
5 mark connection prerouting
;;; MR2 JALUR1
6 mark routing prerouting
;;; MR2 JALUR2
7 mark routing prerouting
8 items (1 selected)
Mangle Rule <>
General Advanced Extra Action Statistics
Action: mark connection
New Connection Mark: speedy2
Passthrough
OK
Cancel
Apply
Disable
Comment
Copy
Remove
Reset Counters
Reset All Counters

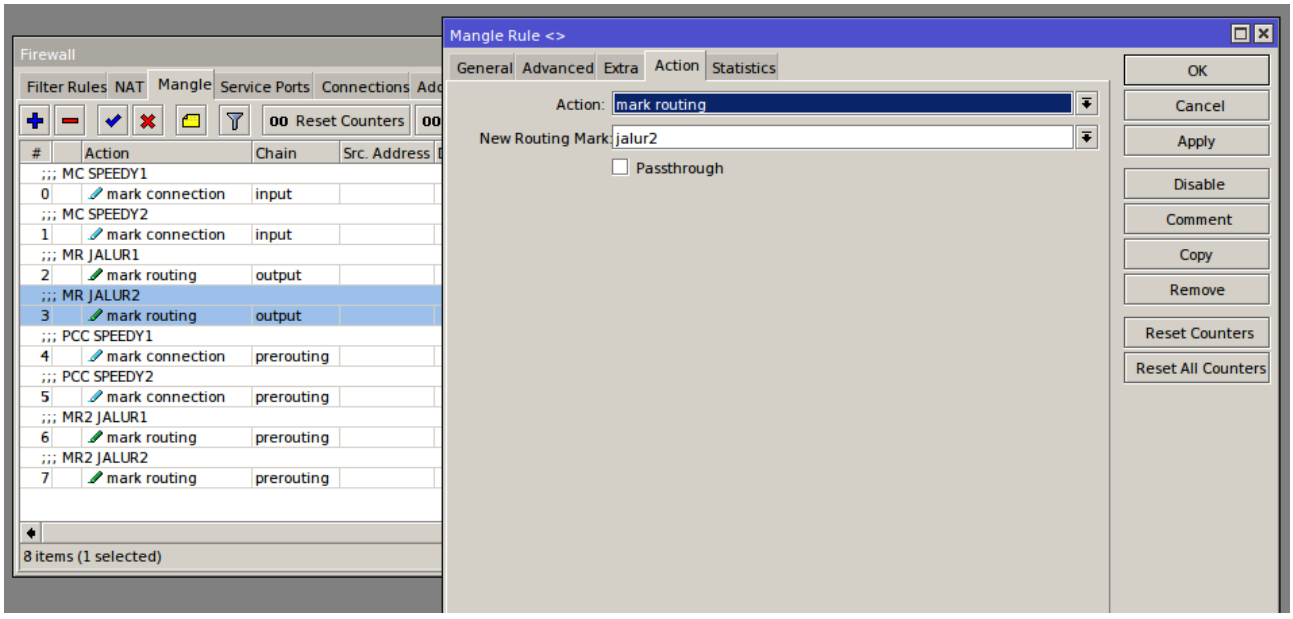
Rule3.


Firewall
Filter Rules NAT Mangle Service Ports Connections Adc
00 Reset Counters 00
Action Chain Src. Address
;;; MC SPEEDY1
0 mark connection input
;;; MC SPEEDY2
1 mark connection input
;;; MR JALUR1
2 mark routing output
;;; MR JALUR2
3 mark routing output
;;; PCC SPEEDY1
4 mark connection prerouting
;;; PCC SPEEDY2
5 mark connection prerouting
;;; MR2 JALUR1
6 mark routing prerouting
;;; MR2 JALUR2
7 mark routing prerouting
8 items (1 selected)
Mangle Rule <>
General Advanced Extra Action Statistics
Chain: output
Src. Address:
Dst. Address:
Protocol:
Src. Port:
Dst. Port:
Any. Port:
P2P:
In. Interface:
Out. Interface:
Packet Mark:
Connection Mark: speedy1
Routing Mark:
Routing Table:
Connection Type:
Connection State:
OK
Cancel
Apply
Disable
Comment
Copy
Remove
Reset Counters
Reset All Counters

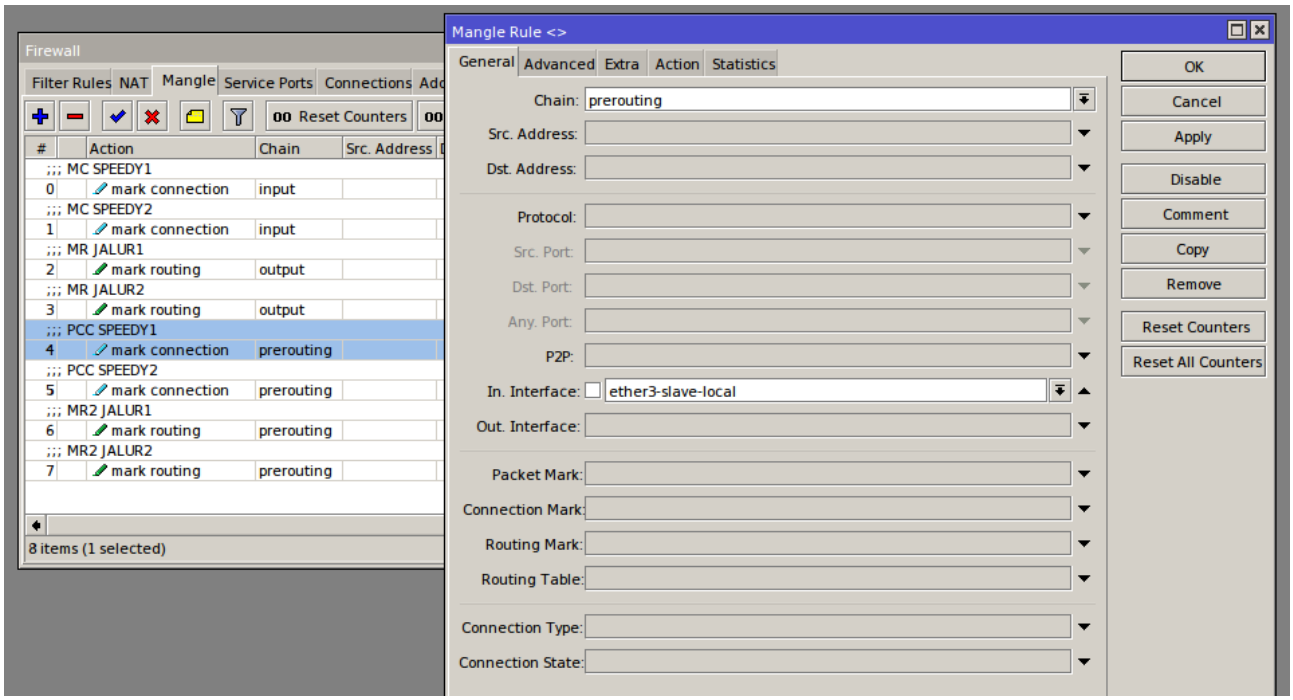

Firewall
Filter Rules NAT Mangle Service Ports Connections Adc
00 Reset Counters 00
Action Chain Src. Address
;;; MC SPEEDY1
0 mark connection input
;;; MC SPEEDY2
1 mark connection input
;;; MR JALUR1
2 mark routing output
;;; MR JALUR2
3 mark routing output
;;; PCC SPEEDY1
4 mark connection prerouting
;;; PCC SPEEDY2
5 mark connection prerouting
;;; MR2 JALUR1
6 mark routing prerouting
;;; MR2 JALUR2
7 mark routing prerouting
8 items (1 selected)
Mangle Rule <>
General Advanced Extra Action Statistics
Action: mark routing
New Routing Mark: jalur1
Passthrough
OK
Cancel
Apply
Disable
Comment
Copy
Remove
Reset Counters
Reset All Counters

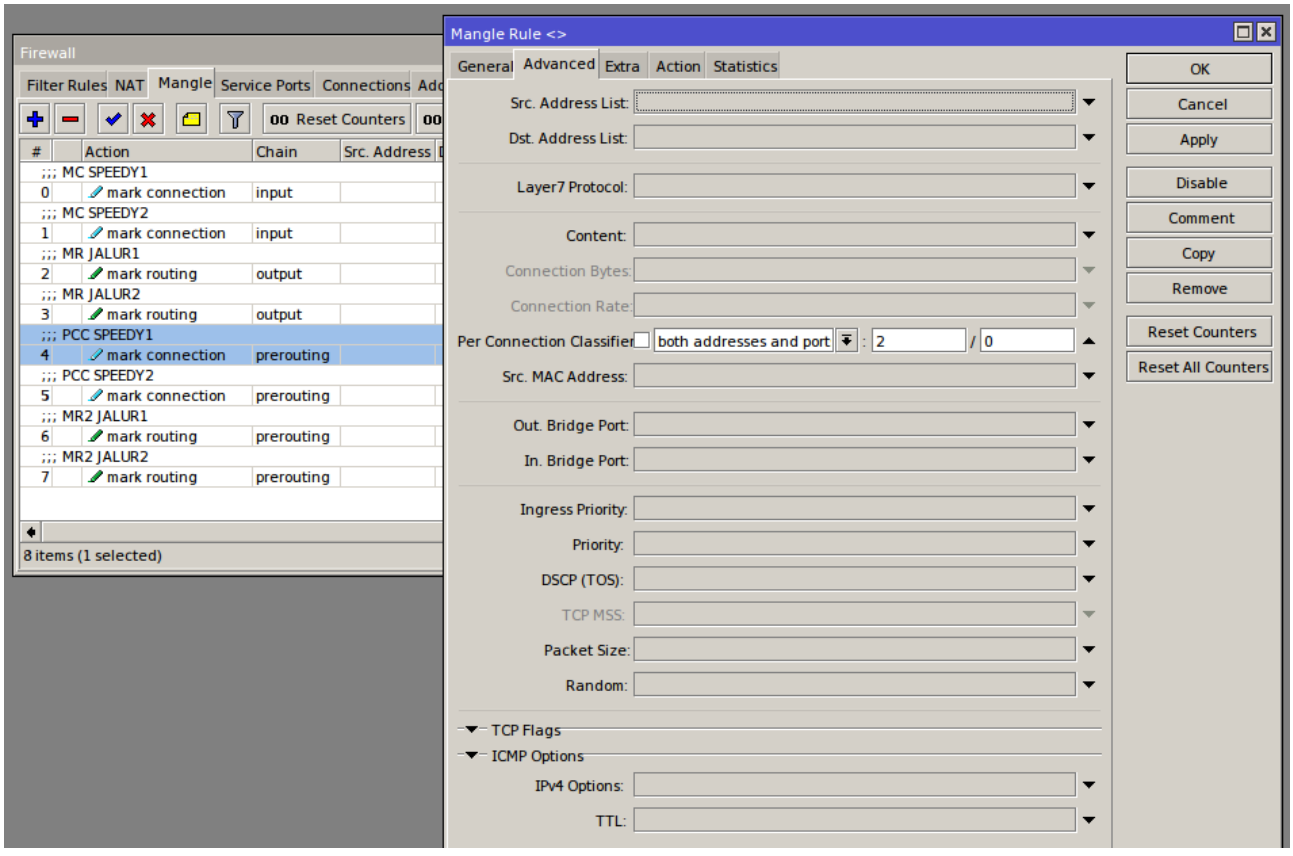
Rule4.

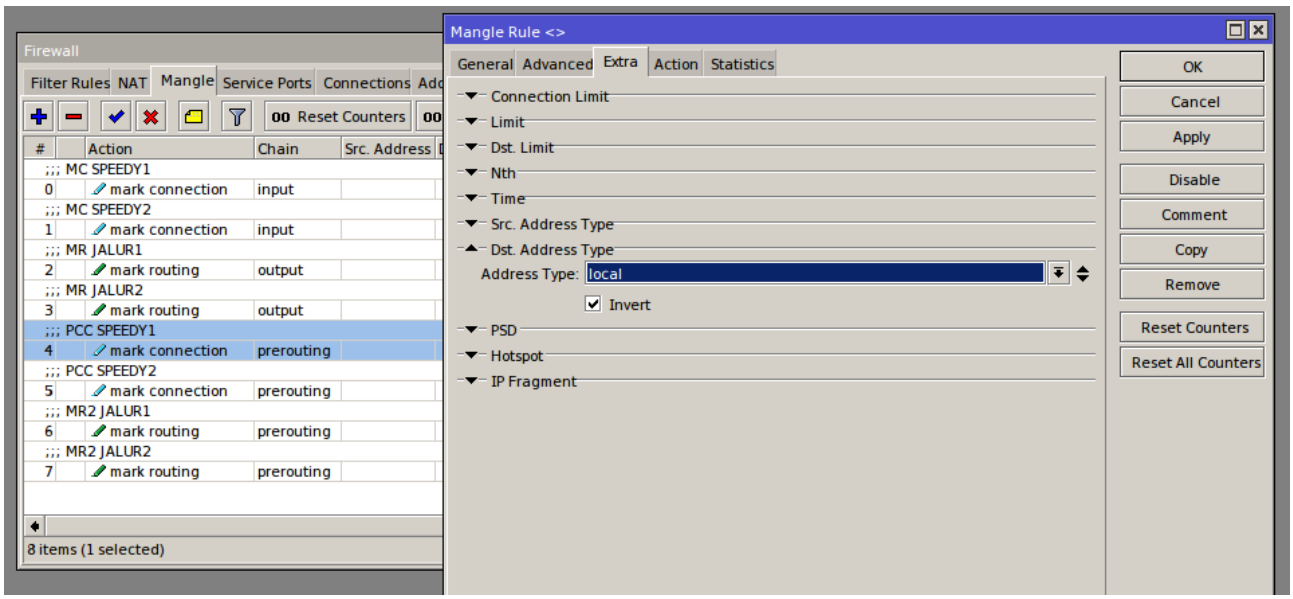

Firewall
Filter Rules NAT Mangle Service Ports Connections
Reset Counters
Action Chain Src. Address
;;; MC SPEEDY1
0 mark connection input
;;; MC SPEEDY2
1 mark connection input
;;; MR JALUR1
2 mark routing output
;;; MR JALUR2
3 mark routing output
;;; PCC SPEEDY1
4 mark connection prerouting
;;; PCC SPEEDY2
5 mark connection prerouting
;;; MR2 JALUR1
6 mark routing prerouting
;;; MR2 JALUR2
7 mark routing prerouting
8 items (1 selected)
Mangle Rule <>
General Advanced Extra Action Statistics
Chain: output
Src. Address:
Dst. Address:
Protocol:
Src. Port:
Dst. Port:
Any. Port:
P2P:
In. Interface:
Out. Interface:
Packet Mark:
Connection Mark: speedy2
Routing Mark:
Routing Table:
Connection Type:
Connection State:
OK
Cancel
Apply
Disable
Comment
Copy
Remove
Reset Counters
Reset All Counters

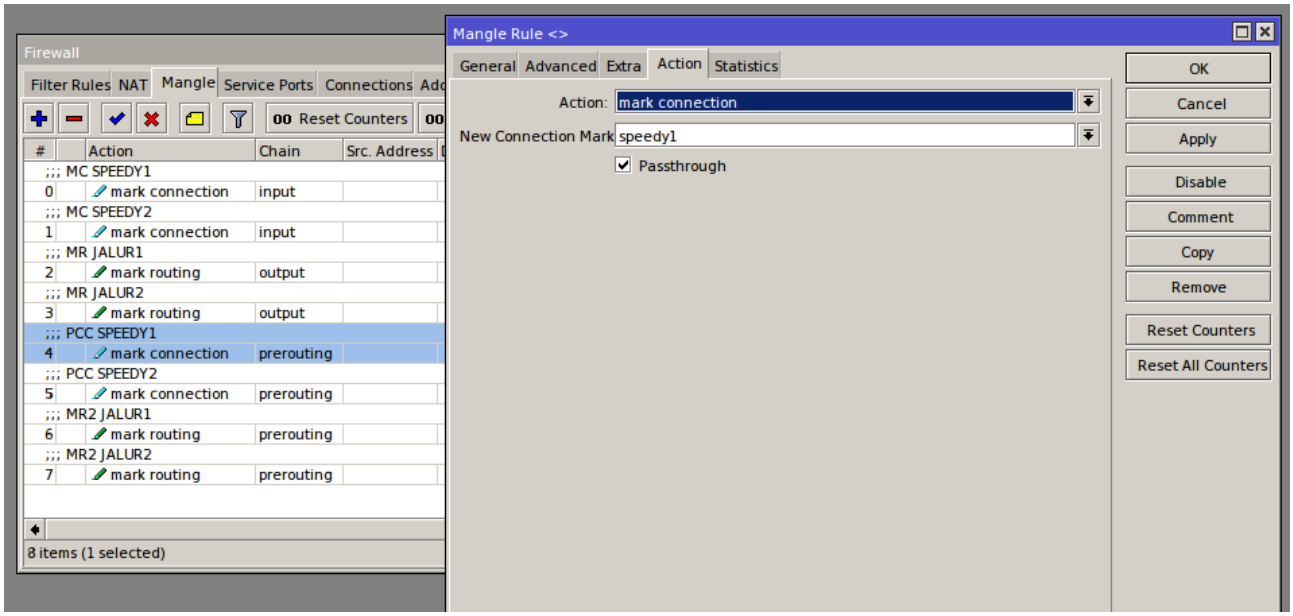

Firewall
Filter Rules NAT Mangle Service Ports Connections
Reset Counters
Action Chain Src. Address
;;; MC SPEEDY1
0 mark connection input
;;; MC SPEEDY2
1 mark connection input
;;; MR JALUR1
2 mark routing output
;;; MR JALUR2
3 mark routing output
;;; PCC SPEEDY1
4 mark connection prerouting
;;; PCC SPEEDY2
5 mark connection prerouting
;;; MR2 JALUR1
6 mark routing prerouting
;;; MR2 JALUR2
7 mark routing prerouting
8 items (1 selected)
Mangle Rule <>
General Advanced Extra Action Statistics
Action: mark routing
New Routing Mark: jalur2
Passthrough
OK
Cancel
Apply
Disable
Comment
Copy
Remove
Reset Counters
Reset All Counters

Rule5.

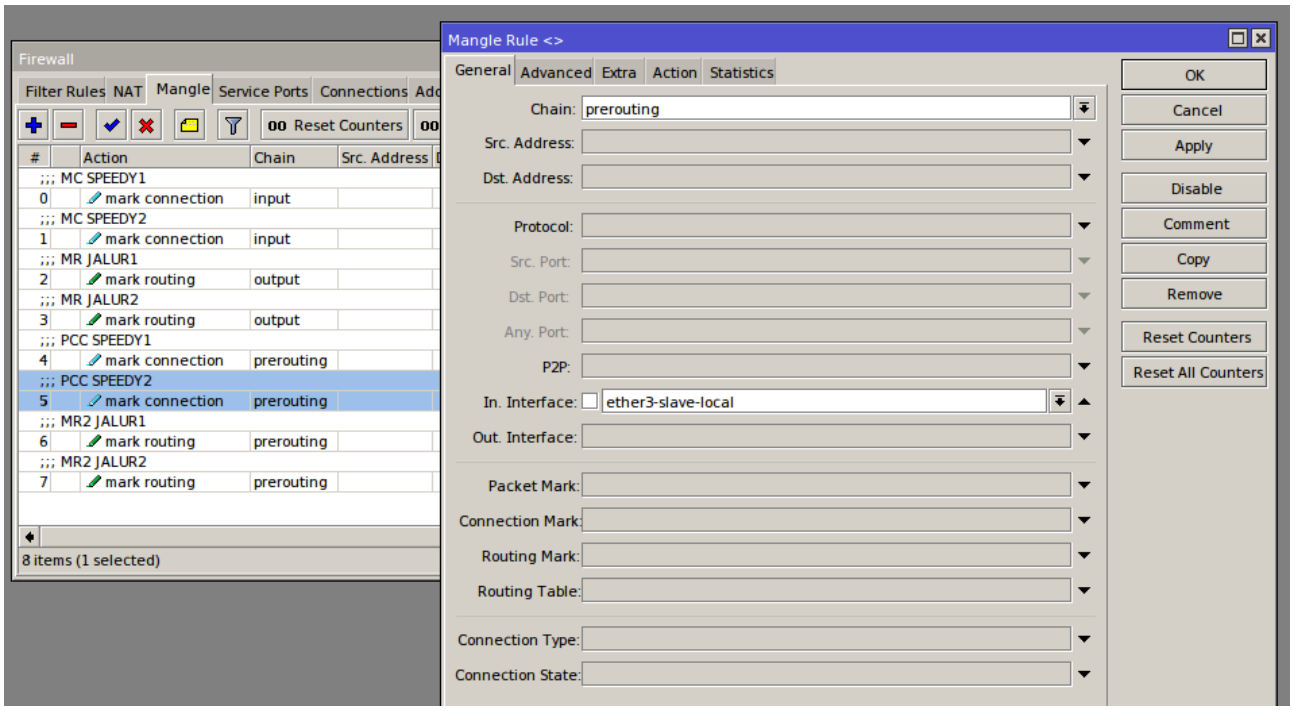

Firewall
Filter Rules NAT Mangle Service Ports Connections
Reset Counters
Action Chain Src. Address
;;; MC SPEEDY1
0 mark connection input
;;; MC SPEEDY2
1 mark connection input
;;; MR JALUR1
2 mark routing output
;;; MR JALUR2
3 mark routing output
;;; PCC SPEEDY1
4 mark connection prerouting
;;; PCC SPEEDY2
5 mark connection prerouting
;;; MR2 JALUR1
6 mark routing prerouting
;;; MR2 JALUR2
7 mark routing prerouting
8 items (1 selected)
Mangle Rule <>
General Advanced Extra Action Statistics
Chain: prerouting
Src. Address:
Dst. Address:
Protocol:
Src. Port:
Dst. Port:
Any. Port:
P2P:
In. Interface: ether3-slave-local
Out. Interface:
Packet Mark:
Connection Mark:
Routing Mark:
Routing Table:
Connection Type:
Connection State:
OK
Cancel
Apply
Disable
Comment
Copy
Remove
Reset Counters
Reset All Counters

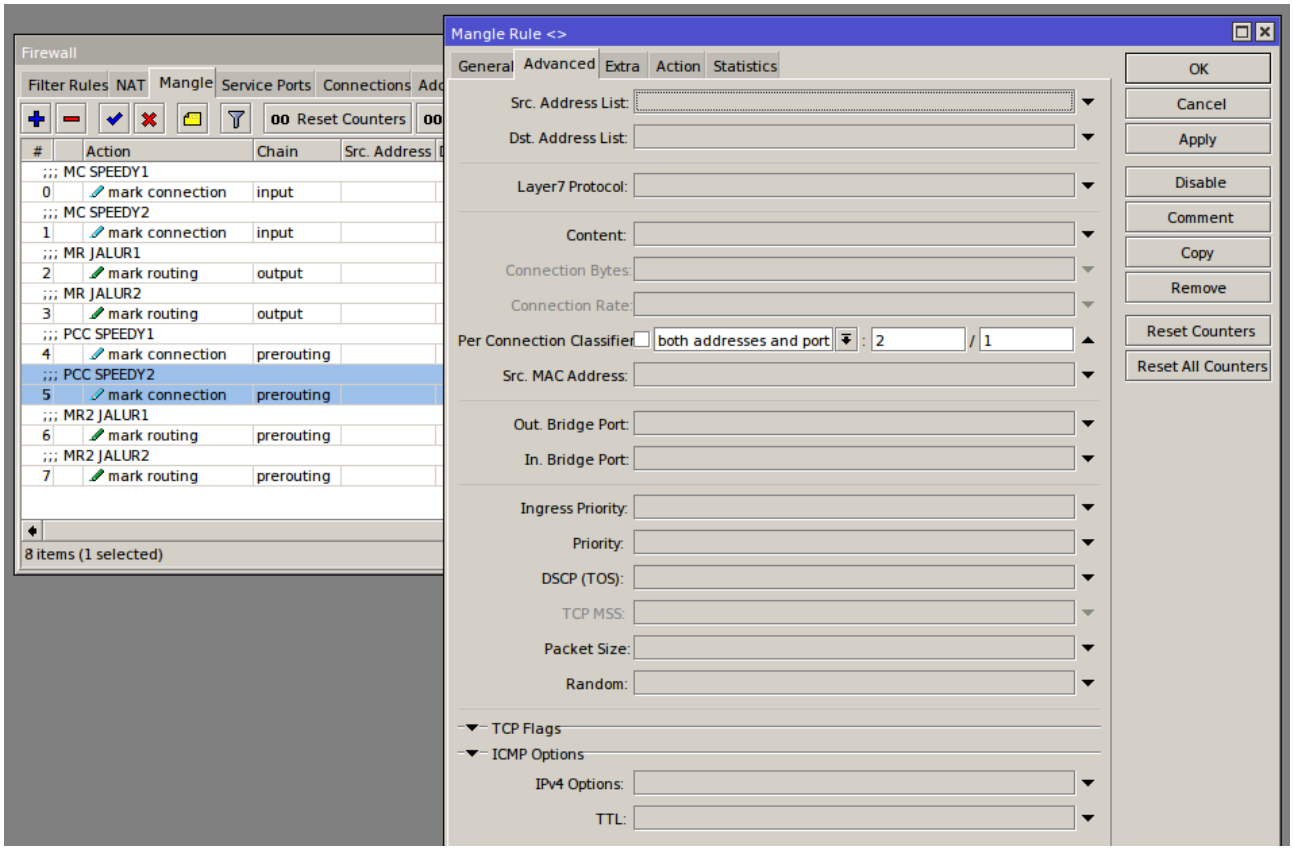

Firewall
Filter Rules NAT Mangle Service Ports Connections
Reset Counters
Action Chain Src. Address
;;; MC SPEEDY1
0 mark connection input
;;; MC SPEEDY2
1 mark connection input
;;; MR JALUR1
2 mark routing output
;;; MR JALUR2
3 mark routing output
;;; PCC SPEEDY1
4 mark connection prerouting
;;; PCC SPEEDY2
5 mark connection prerouting
;;; MR2 JALUR1
6 mark routing prerouting
;;; MR2 JALUR2
7 mark routing prerouting
8 items (1 selected)
Mangle Rule <>
General Advanced Extra Action Statistics
Src. Address List:
Dst. Address List:
Layer7 Protocol:
Content:
Connection Bytes:
Connection Rate:
Per Connection Classifier: both addresses and port : 2 / 0
Src. MAC Address:
Out. Bridge Port:
In. Bridge Port:
Ingress Priority:
Priority:
DSCP (TOS):
TCP MSS:
Packet Size:
Random:
TCP Flags
ICMP Options
IPv4 Options:
TTL:
OK
Cancel
Apply
Disable
Comment
Copy
Remove
Reset Counters
Reset All Counters

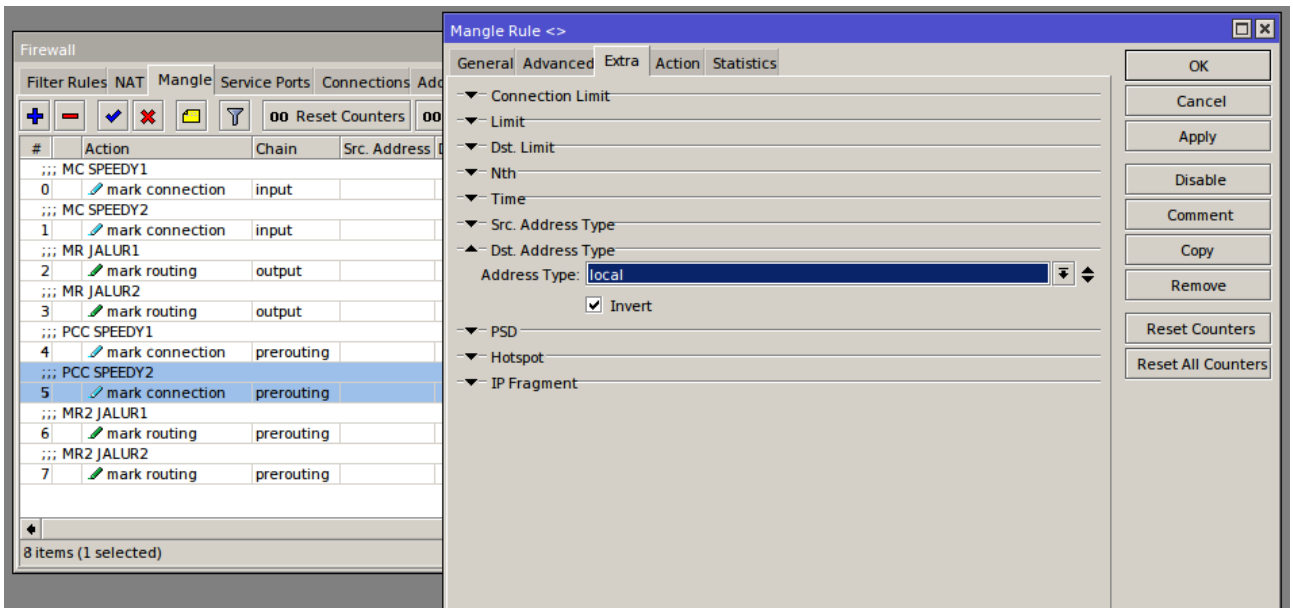

Firewall
Filter Rules
NAT
Mangle
Service Ports
Connections
Reset Counters
Action Chain Src. Address
;;; MC SPEEDY1
0 mark connection input
;;; MC SPEEDY2
1 mark connection input
;;; MR JALUR1
2 mark routing output
;;; MR JALUR2
3 mark routing output
;;; PCC SPEEDY1
4 mark connection prerouting
;;; PCC SPEEDY2
5 mark connection prerouting
;;; MR2 JALUR1
6 mark routing prerouting
;;; MR2 JALUR2
7 mark routing prerouting
8 items (1 selected)
Mangle Rule <>
General
Advanced
Extra
Action
Statistics
Connection Limit
Limit
Dst. Limit
Nth
Time
Src. Address Type
Dst. Address Type
Address Type: local
Invert
PSD
Hotspot
IP Fragment
OK
Cancel
Apply
Disable
Comment
Copy
Remove
Reset Counters
Reset All Counters

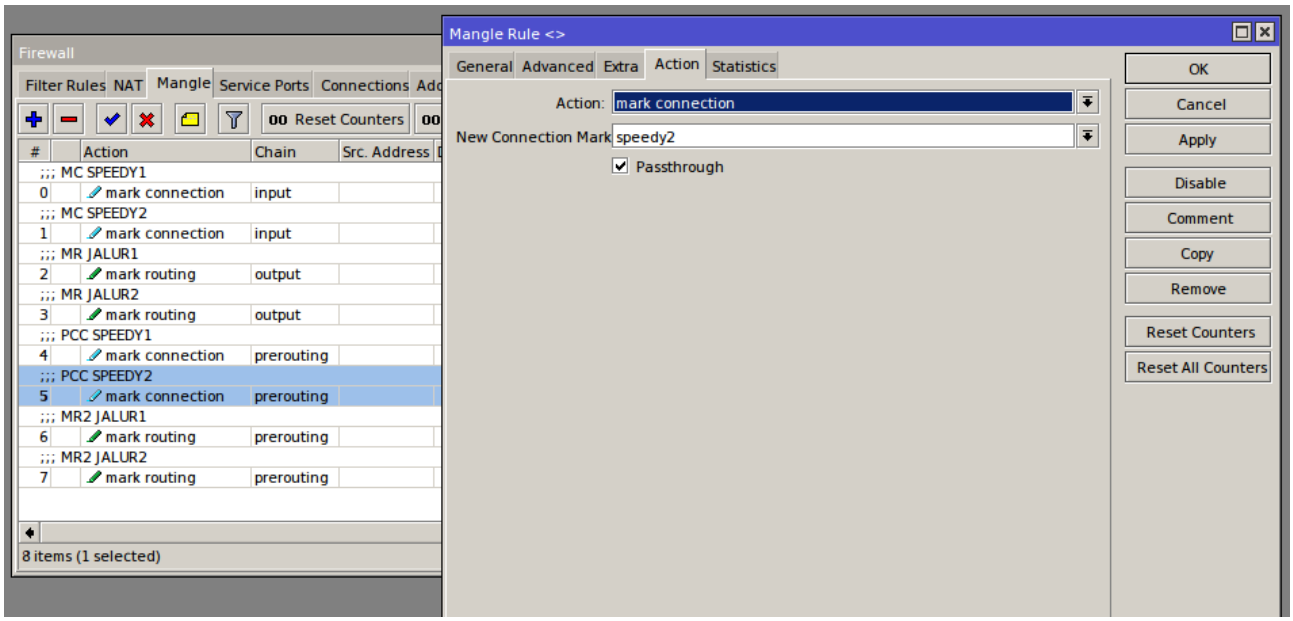

Firewall
Filter Rules
NAT
Mangle
Service Ports
Connections
Reset Counters
Action Chain Src. Address
;;; MC SPEEDY1
0 mark connection input
;;; MC SPEEDY2
1 mark connection input
;;; MR JALUR1
2 mark routing output
;;; MR JALUR2
3 mark routing output
;;; PCC SPEEDY1
4 mark connection prerouting
;;; PCC SPEEDY2
5 mark connection prerouting
;;; MR2 JALUR1
6 mark routing prerouting
;;; MR2 JALUR2
7 mark routing prerouting
8 items (1 selected)
Mangle Rule <>
General
Advanced
Extra
Action
Statistics
Action: mark connection
New Connection Mark: speedy1
Passthrough
OK
Cancel
Apply
Disable
Comment
Copy
Remove
Reset Counters
Reset All Counters

Rule6.

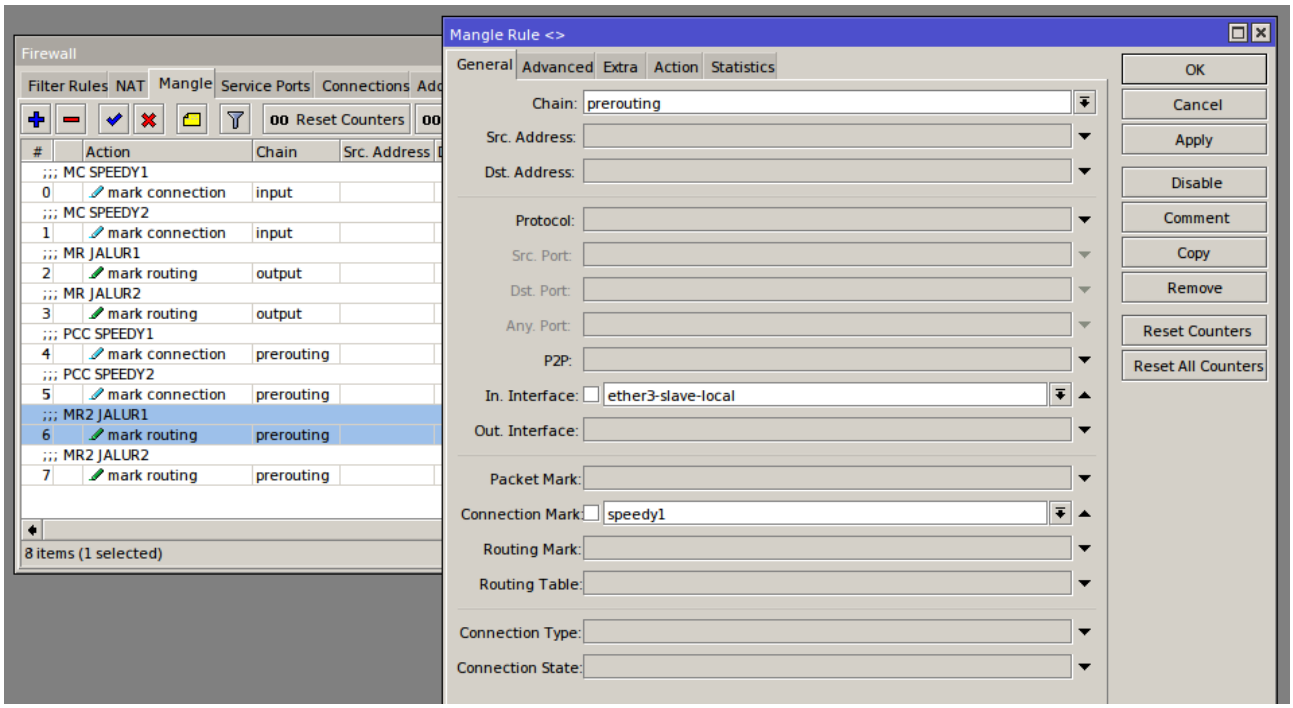

Firewall
Filter Rules NAT Mangle Service Ports Connections
00 Reset Counters
Action Chain Src. Address
;;; MC SPEEDY1
0 mark connection input
;;; MC SPEEDY2
1 mark connection input
;;; MR JALUR1
2 mark routing output
;;; MR JALUR2
3 mark routing output
;;; PCC SPEEDY1
4 mark connection prerouting
;;; PCC SPEEDY2
5 mark connection prerouting
;;; MR2 JALUR1
6 mark routing prerouting
;;; MR2 JALUR2
7 mark routing prerouting
8 items (1 selected)
Mangle Rule <>
General Advanced Extra Action Statistics
Chain: prerouting
Src. Address:
Dst. Address:
Protocol:
Src. Port:
Dst. Port:
Any. Port:
P2P:
In. Interface: ether3-slave-local
Out. Interface:
Packet Mark:
Connection Mark:
Routing Mark:
Routing Table:
Connection Type:
Connection State:
OK
Cancel
Apply
Disable
Comment
Copy
Remove
Reset Counters
Reset All Counters

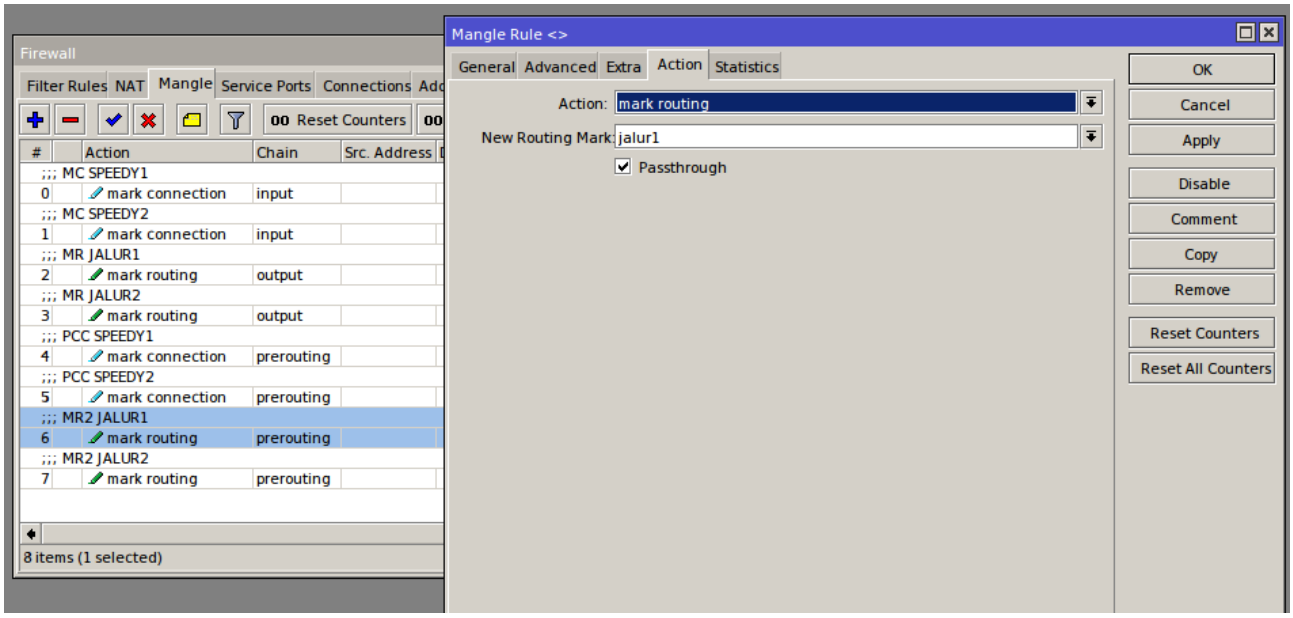

Firewall
Filter Rules NAT Mangle Service Ports Connections
00 Reset Counters
Action Chain Src. Address
;;; MC SPEEDY1
0 mark connection input
;;; MC SPEEDY2
1 mark connection input
;;; MR JALUR1
2 mark routing output
;;; MR JALUR2
3 mark routing output
;;; PCC SPEEDY1
4 mark connection prerouting
;;; PCC SPEEDY2
5 mark connection prerouting
;;; MR2 JALUR1
6 mark routing prerouting
;;; MR2 JALUR2
7 mark routing prerouting
8 items (1 selected)
Mangle Rule <>
General Advanced Extra Action Statistics
Src. Address List:
Dst. Address List:
Layer7 Protocol:
Content:
Connection Bytes:
Connection Rate:
Per Connection Classifier: both addresses and port : 2 / 1
Src. MAC Address:
Out. Bridge Port:
In. Bridge Port:
Ingress Priority:
Priority:
DSCP (TOS):
TCP MSS:
Packet Size:
Random:
TCP Flags
ICMP Options
IPv4 Options:
TTL:
OK
Cancel
Apply
Disable
Comment
Copy
Remove
Reset Counters
Reset All Counters


Firewall
Filter Rules NAT Mangle Service Ports Connections
Reset Counters
Action Chain Src. Address
;;; MC SPEEDY1
0 mark connection input
;;; MC SPEEDY2
1 mark connection input
;;; MR JALUR1
2 mark routing output
;;; MR JALUR2
3 mark routing output
;;; PCC SPEEDY1
4 mark connection prerouting
;;; PCC SPEEDY2
5 mark connection prerouting
;;; MR2 JALUR1
6 mark routing prerouting
;;; MR2 JALUR2
7 mark routing prerouting
8 items (1 selected)
Mangle Rule <>
General Advanced Extra Action Statistics
Connection Limit
Limit
Dst. Limit
Nth
Time
Src. Address Type
Dst. Address Type
Address Type: local
Invert
PSD
Hotspot
IP Fragment
OK
Cancel
Apply
Disable
Comment
Copy
Remove
Reset Counters
Reset All Counters

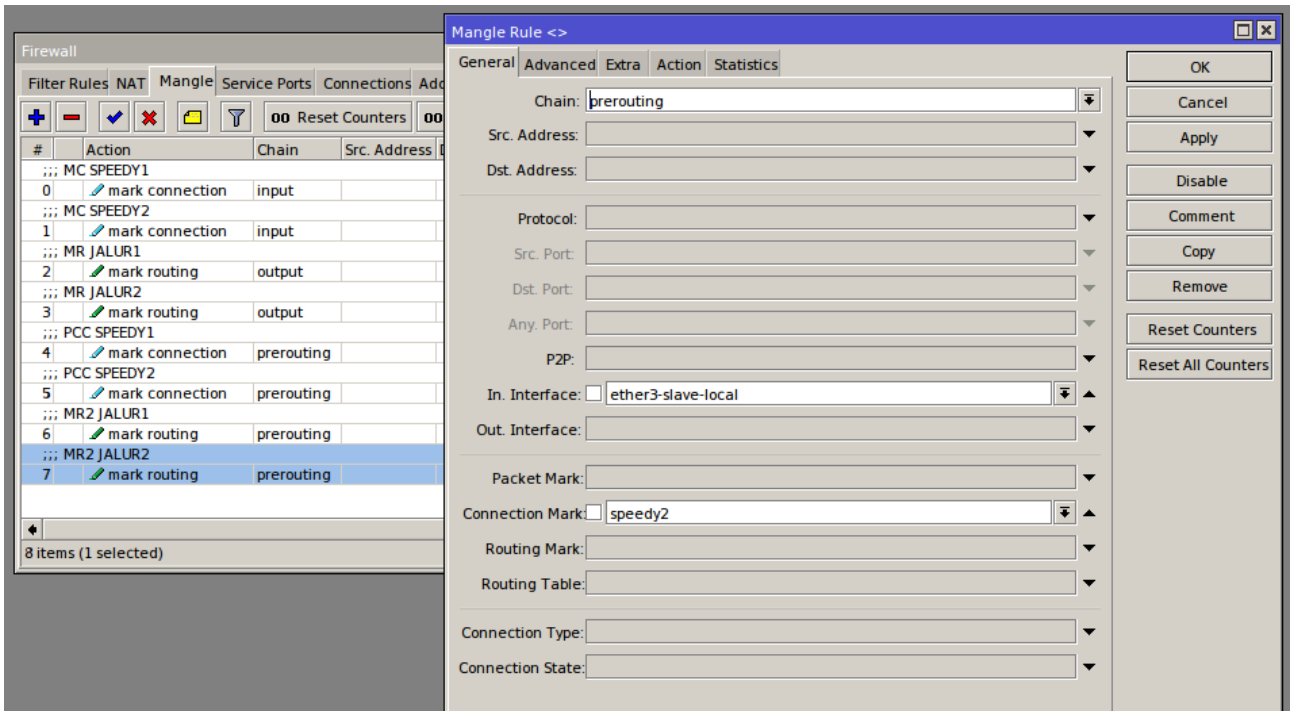

Firewall
Filter Rules NAT Mangle Service Ports Connections
Reset Counters
Action Chain Src. Address
;;; MC SPEEDY1
0 mark connection input
;;; MC SPEEDY2
1 mark connection input
;;; MR JALUR1
2 mark routing output
;;; MR JALUR2
3 mark routing output
;;; PCC SPEEDY1
4 mark connection prerouting
;;; PCC SPEEDY2
5 mark connection prerouting
;;; MR2 JALUR1
6 mark routing prerouting
;;; MR2 JALUR2
7 mark routing prerouting
8 items (1 selected)
Mangle Rule <>
General Advanced Extra Action Statistics
Action: mark connection
New Connection Mark: speedy2
Passthrough
OK
Cancel
Apply
Disable
Comment
Copy
Remove
Reset Counters
Reset All Counters

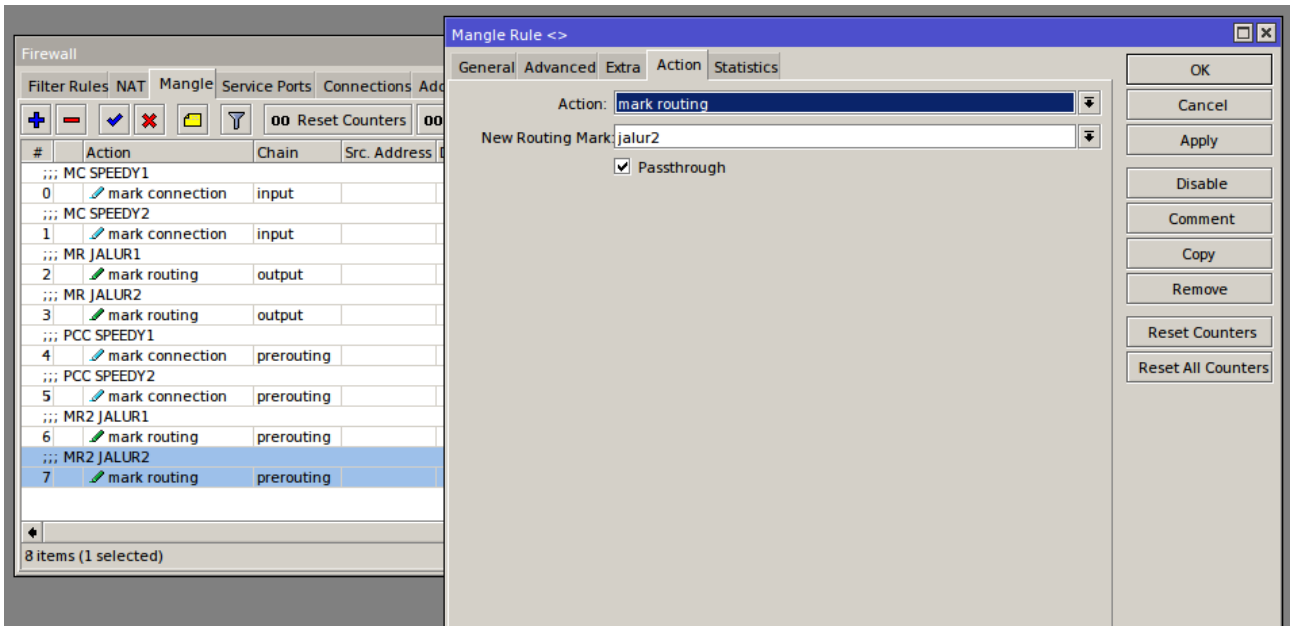
Rule7.


Firewall
Filter Rules NAT Mangle Service Ports Connections Ad
Reset Counters
Action Chain Src. Address
;;; MC SPEEDY1
0 mark connection input
;;; MC SPEEDY2
1 mark connection input
;;; MR JALUR1
2 mark routing output
;;; MR JALUR2
3 mark routing output
;;; PCC SPEEDY1
4 mark connection prerouting
;;; PCC SPEEDY2
5 mark connection prerouting
;;; MR2 JALUR1
6 mark routing prerouting
;;; MR2 JALUR2
7 mark routing prerouting
8 items (1 selected)
Mangle Rule <>
General Advanced Extra Action Statistics
Chain: prerouting
Src. Address:
Dst. Address:
Protocol:
Src. Port:
Dst. Port:
Any. Port:
P2P:
In. Interface: ether3-slave-local
Out. Interface:
Packet Mark:
Connection Mark: speedy1
Routing Mark:
Routing Table:
Connection Type:
Connection State:
OK
Cancel
Apply
Disable
Comment
Copy
Remove
Reset Counters
Reset All Counters

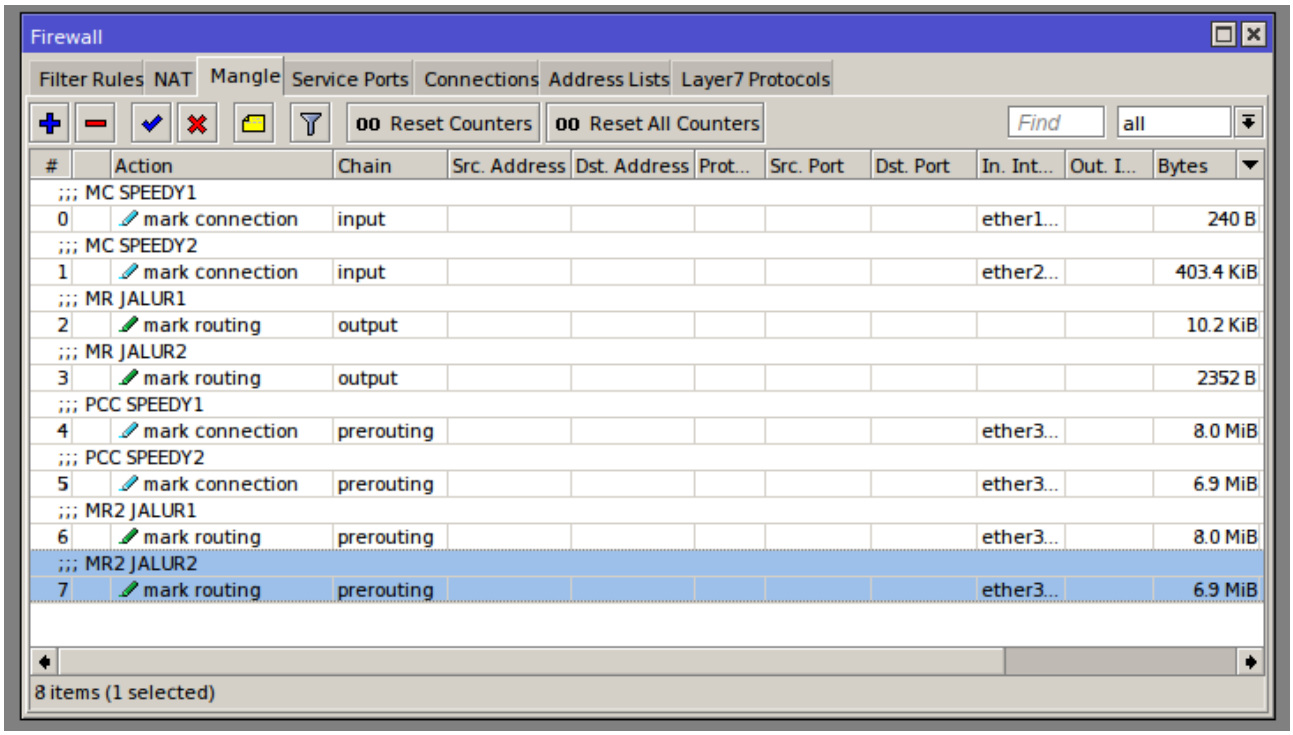

Firewall
Filter Rules NAT Mangle Service Ports Connections Ad
Reset Counters
Action Chain Src. Address
;;; MC SPEEDY1
0 mark connection input
;;; MC SPEEDY2
1 mark connection input
;;; MR JALUR1
2 mark routing output
;;; MR JALUR2
3 mark routing output
;;; PCC SPEEDY1
4 mark connection prerouting
;;; PCC SPEEDY2
5 mark connection prerouting
;;; MR2 JALUR1
6 mark routing prerouting
;;; MR2 JALUR2
7 mark routing prerouting
8 items (1 selected)
Mangle Rule <>
General Advanced Extra Action Statistics
Action: mark routing
New Routing Mark: jalur1
Passthrough
OK
Cancel
Apply
Disable
Comment
Copy
Remove
Reset Counters
Reset All Counters

Rule8.


Firewall
Filter Rules NAT Mangle Service Ports Connections
Reset Counters
Action Chain Src. Address
;;; MC SPEEDY1
0 mark connection input
;;; MC SPEEDY2
1 mark connection input
;;; MR JALUR1
2 mark routing output
;;; MR JALUR2
3 mark routing output
;;; PCC SPEEDY1
4 mark connection prerouting
;;; PCC SPEEDY2
5 mark connection prerouting
;;; MR2 JALUR1
6 mark routing prerouting
;;; MR2 JALUR2
7 mark routing prerouting
8 items (1 selected)
Mangle Rule <>
General Advanced Extra Action Statistics
Chain: prerouting
Src. Address:
Dst. Address:
Protocol:
Src. Port:
Dst. Port:
Any. Port:
P2P:
In. Interface: ether3-slave-local
Out. Interface:
Packet Mark:
Connection Mark: speedy2
Routing Mark:
Routing Table:
Connection Type:
Connection State:
OK
Cancel
Apply
Disable
Comment
Copy
Remove
Reset Counters
Reset All Counters

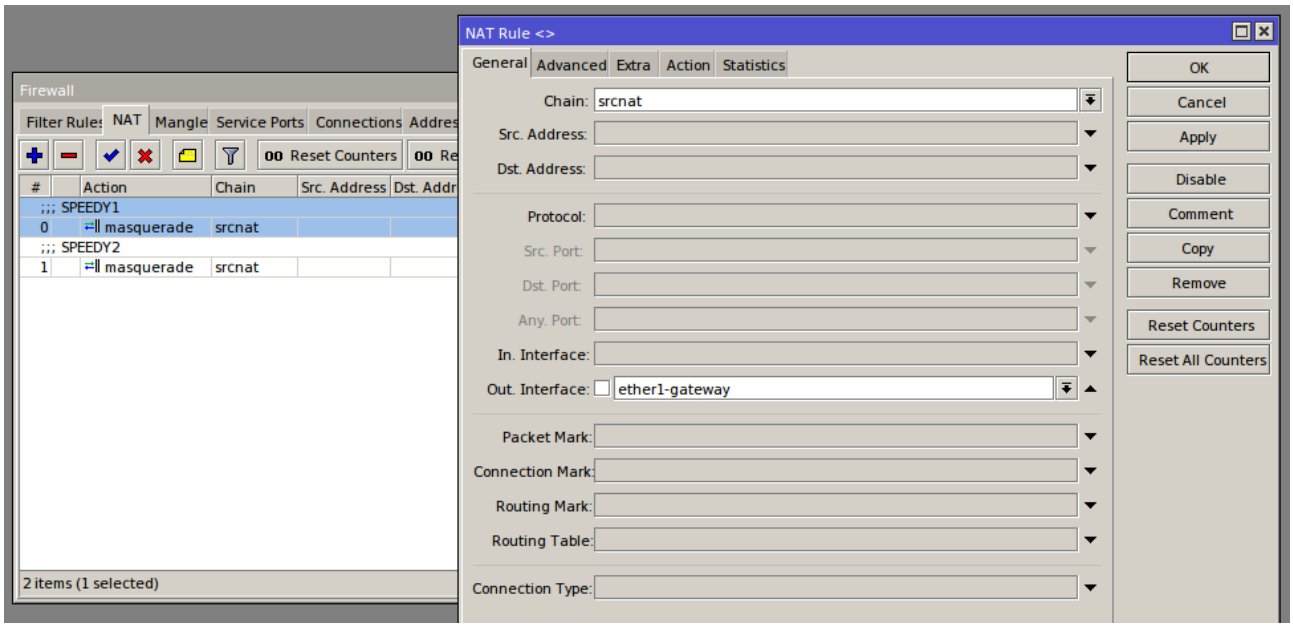

Firewall
Filter Rules NAT Mangle Service Ports Connections
Reset Counters
Action Chain Src. Address
;;; MC SPEEDY1
0 mark connection input
;;; MC SPEEDY2
1 mark connection input
;;; MR JALUR1
2 mark routing output
;;; MR JALUR2
3 mark routing output
;;; PCC SPEEDY1
4 mark connection prerouting
;;; PCC SPEEDY2
5 mark connection prerouting
;;; MR2 JALUR1
6 mark routing prerouting
;;; MR2 JALUR2
7 mark routing prerouting
8 items (1 selected)
Mangle Rule <>
General Advanced Extra Action Statistics
Action: mark routing
New Routing Mark: jalur2
Passthrough
OK
Cancel
Apply
Disable
Comment
Copy
Remove
Reset Counters
Reset All Counters

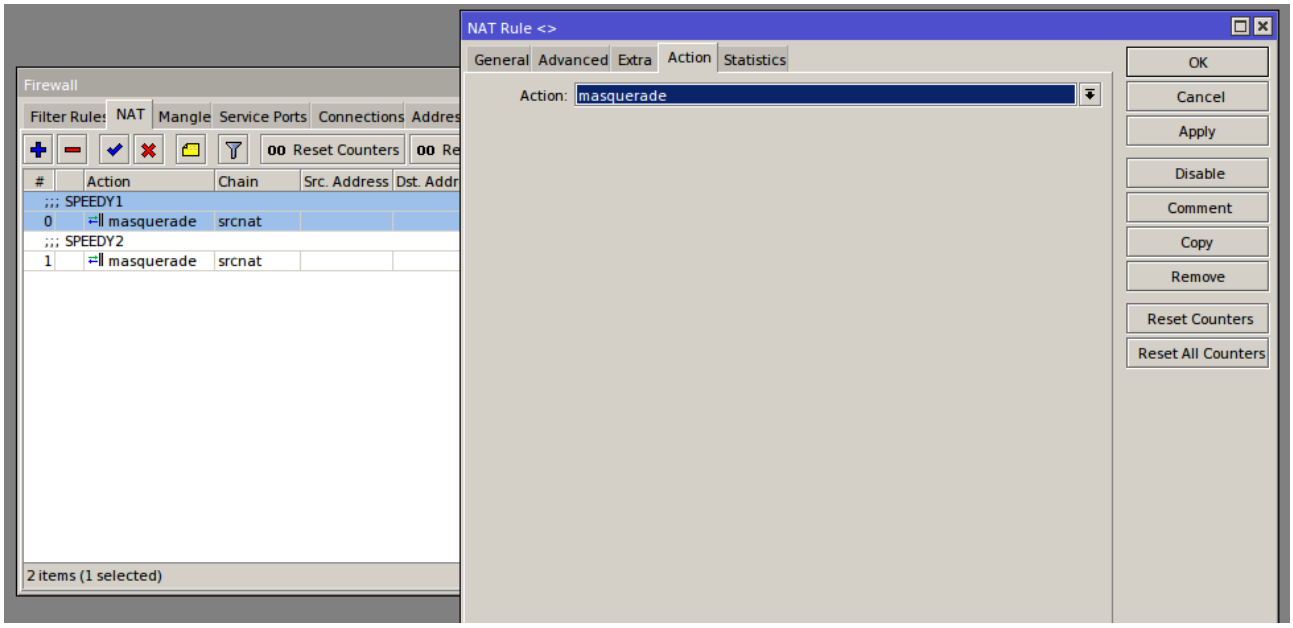
Semua rule.



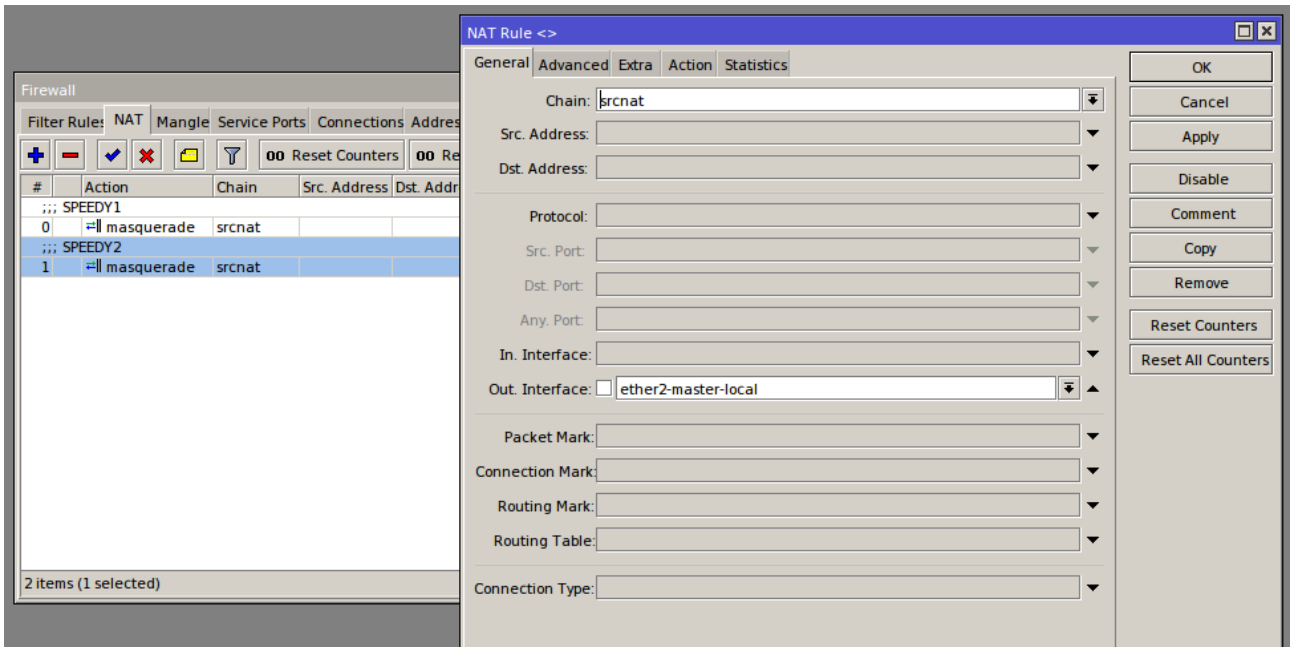
5. Set NAT.

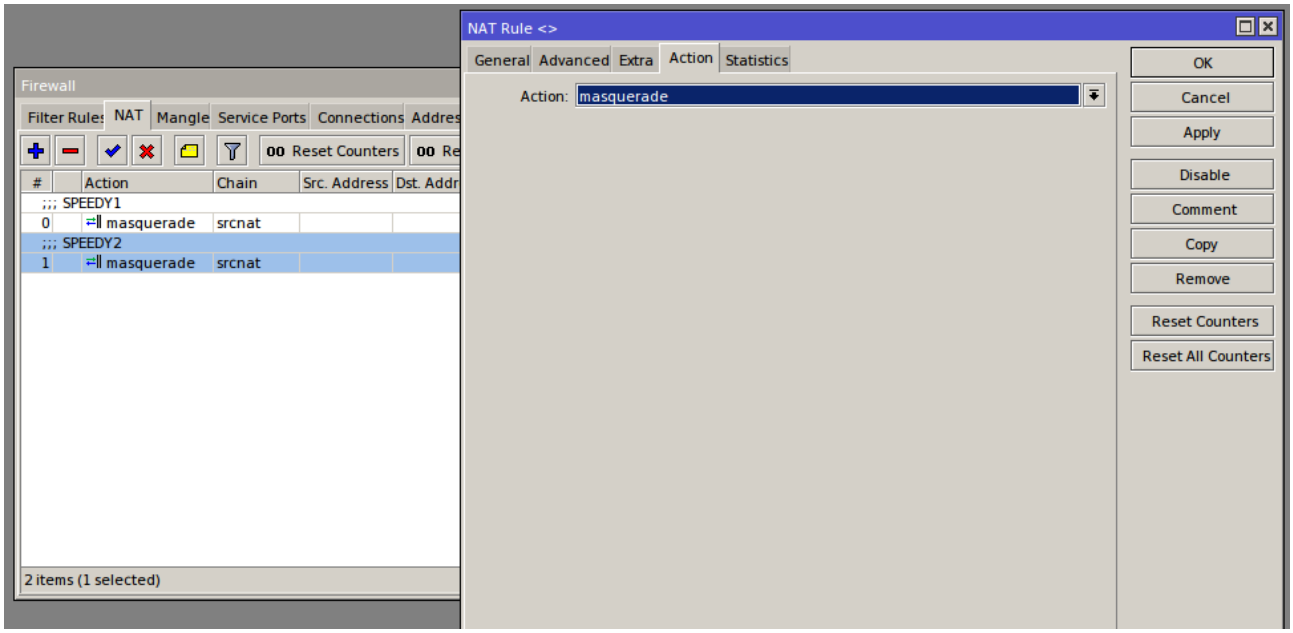
WAN1.



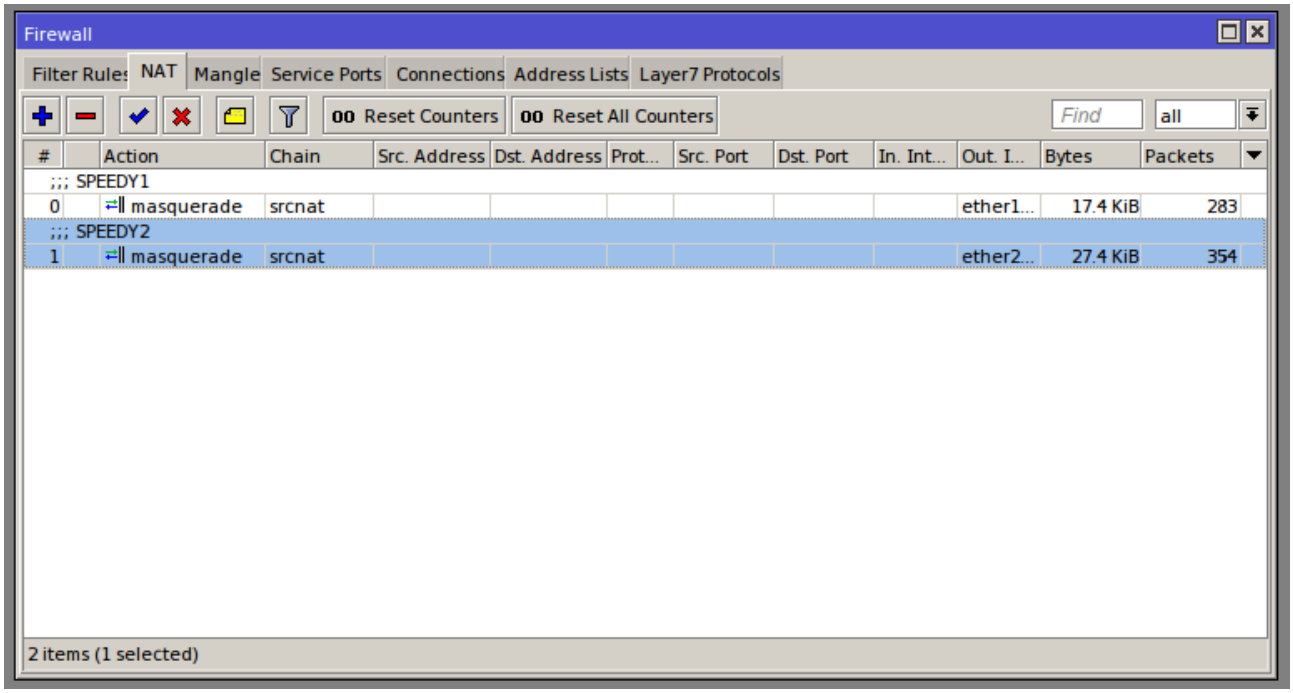

Firewall
Filter Rules
NAT
Mangle
Service Ports
Connections
Address
Reset Counters
#
Action
Chain
Src. Address
Dst. Addr
;;; SPEEDY1
0 masquerade srcnat
;;; SPEEDY2
1 masquerade srcnat
2 items (1 selected)
NAT Rule <>
General
Advanced
Extra
Action
Statistics
Action: masquerade
OK
Cancel
Apply
Disable
Comment
Copy
Remove
Reset Counters
Reset All Counters

WAN2.


Firewall
Filter Rules
NAT
Mangle
Service Ports
Connections
Address
Reset Counters
#
Action
Chain
Src. Address
Dst. Addr
;;; SPEEDY1
0 masquerade srcnat
;;; SPEEDY2
1 masquerade srcnat
2 items (1 selected)
NAT Rule <>
General
Advanced
Extra
Action
Statistics
Chain: srcnat
Src. Address:
Dst. Address:
Protocol:
Src. Port:
Dst. Port:
Any. Port:
In. Interface:
Out. Interface: ether2-master-local
Packet Mark:
Connection Mark:
Routing Mark:
Routing Table:
Connection Type:
OK
Cancel
Apply
Disable
Comment
Copy
Remove
Reset Counters
Reset All Counters

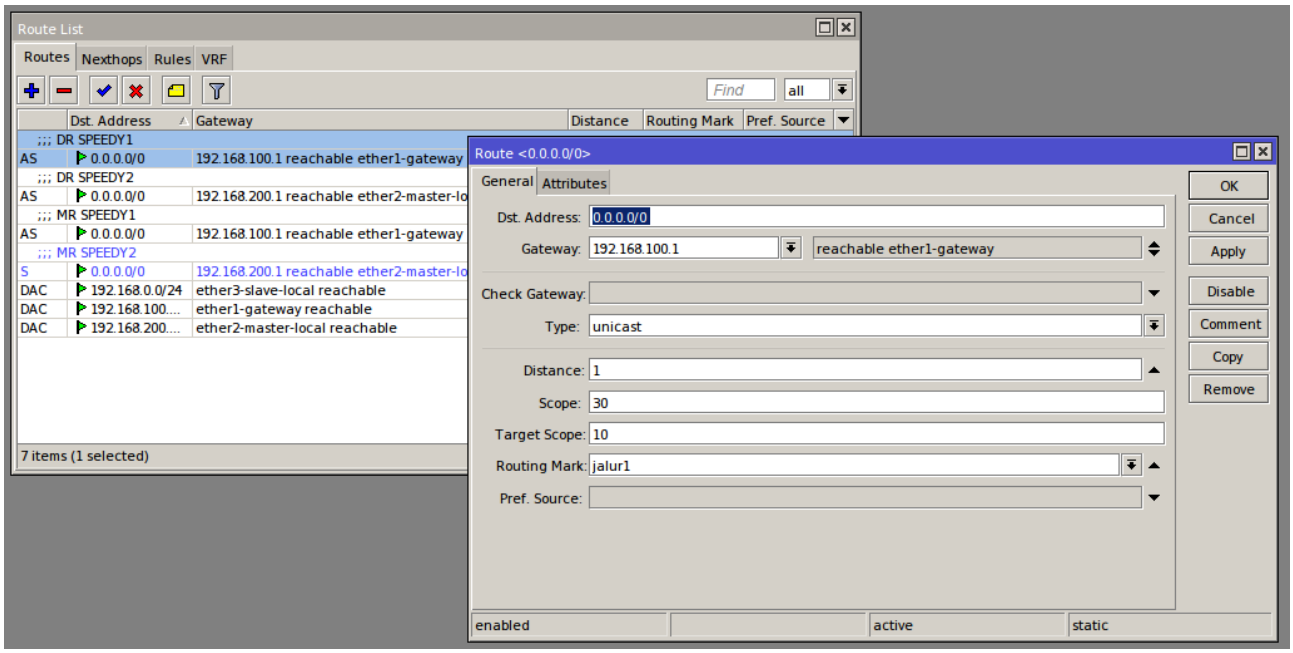

Firewall
Filter Rules
NAT
Mangle
Service Ports
Connections
Address
00 Reset Counters
00 Re
Action Chain Src. Address Dst. Addr
;;; SPEEDY1
0 masquerade srcnat
;;; SPEEDY2
1 masquerade srcnat
2 items (1 selected)
NAT Rule <>
General
Advanced
Extra
Action
Statistics
Action: masquerade
OK
Cancel
Apply
Disable
Comment
Copy
Remove
Reset Counters
Reset All Counters

Semua NAT.

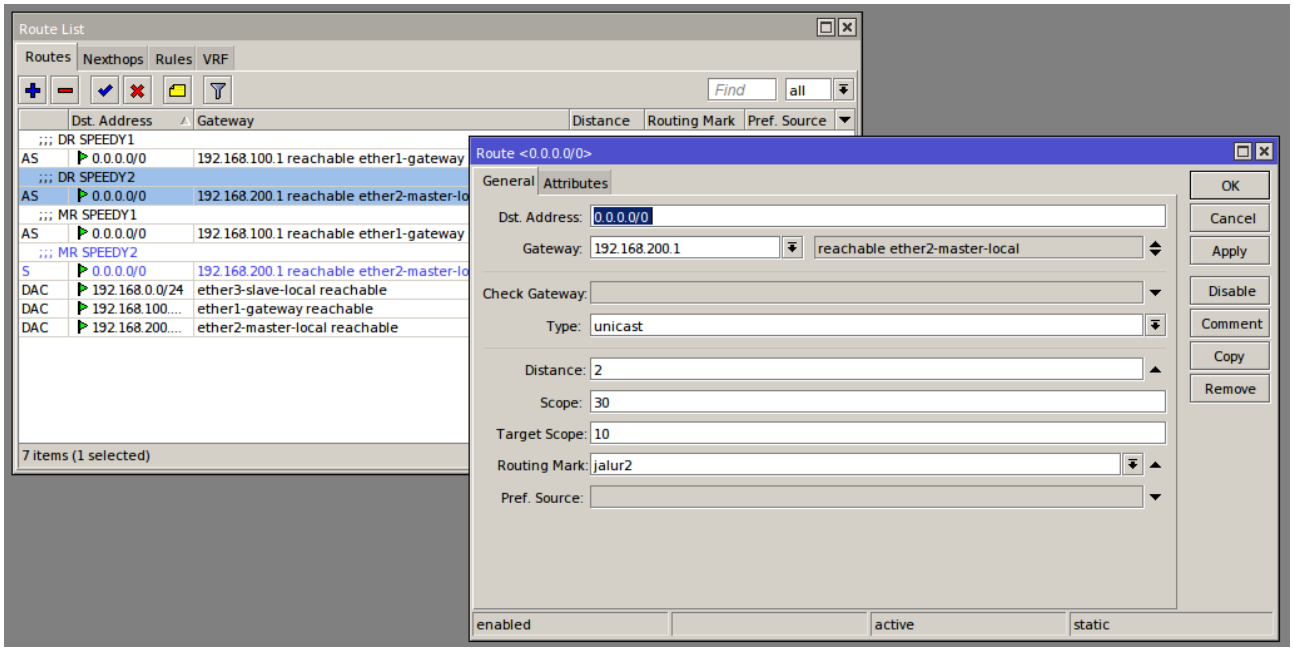

Firewall
Filter Rules
NAT
Mangle
Service Ports
Connections
Address Lists
Layer7 Protocols
00 Reset Counters
00 Reset All Counters
Find
all
Action Chain Src. Address Dst. Address Prot... Src. Port Dst. Port In. Int... Out. I... Bytes Packets
;;; SPEEDY1
0 masquerade srcnat ether1... 17.4 KiB 283
;;; SPEEDY2
1 masquerade srcnat ether2... 27.4 KiB 354
2 items (1 selected)

6. Set route.

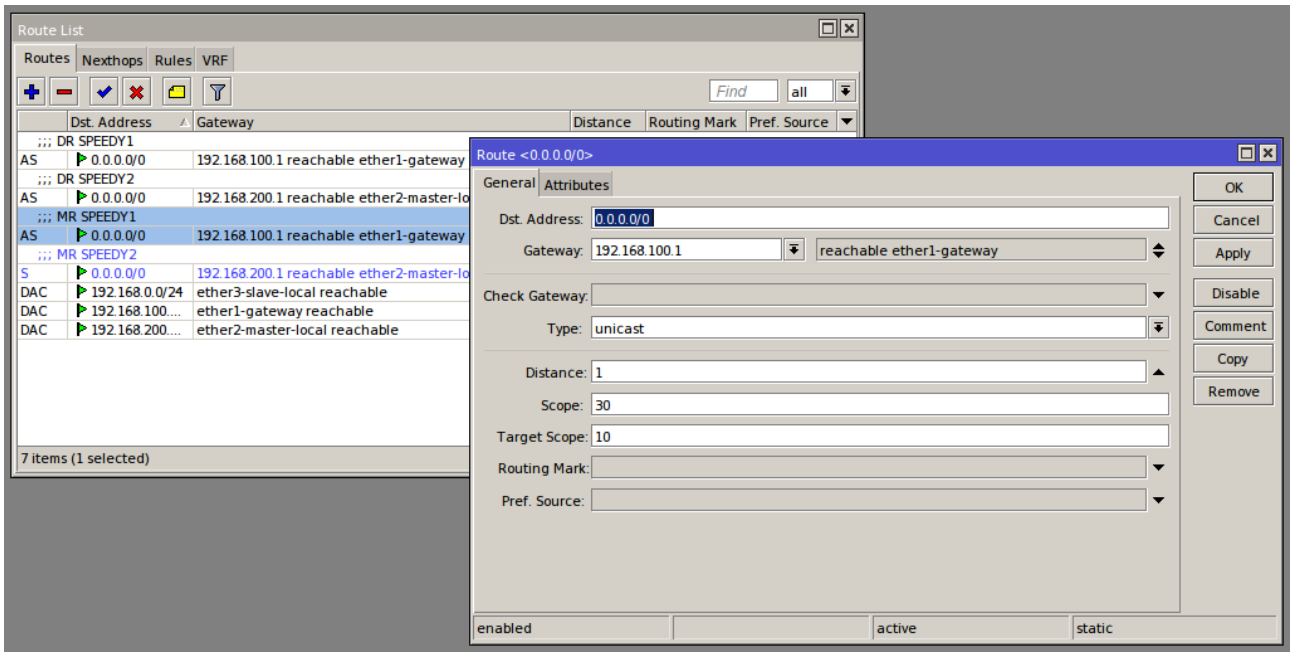
Route1.



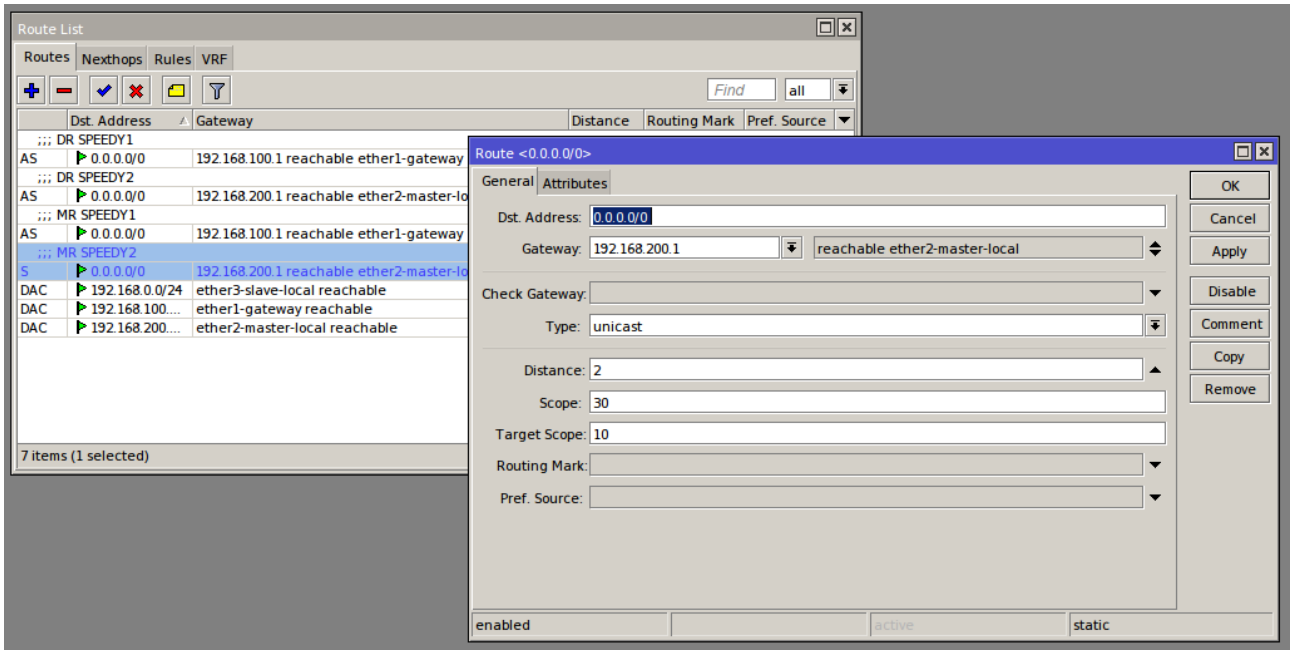
Route2.



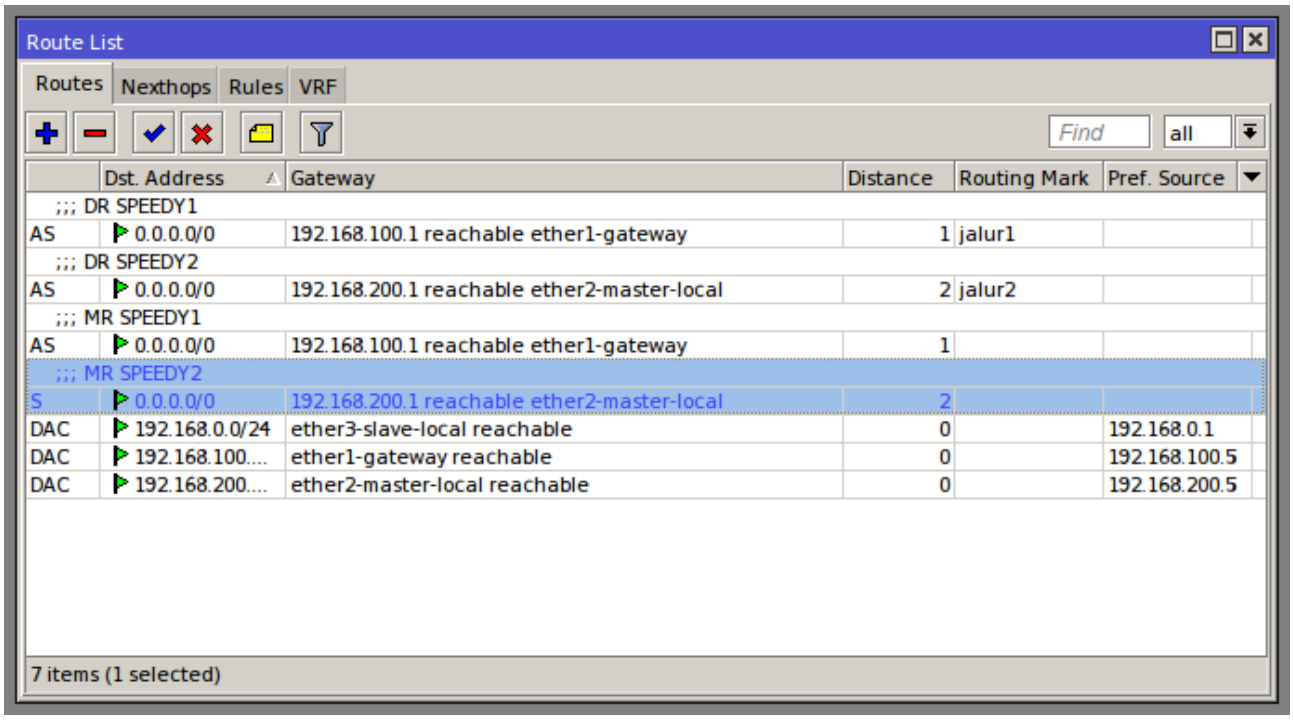
Route3.



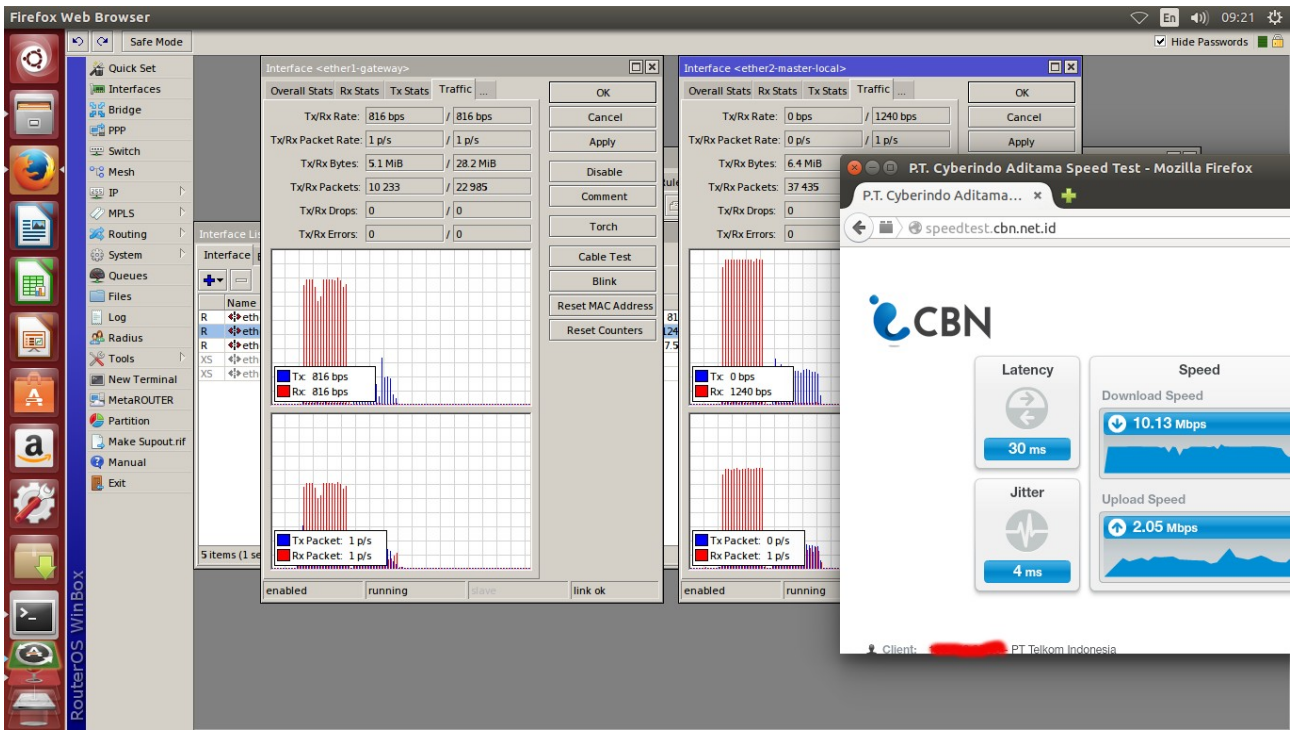
Route4.



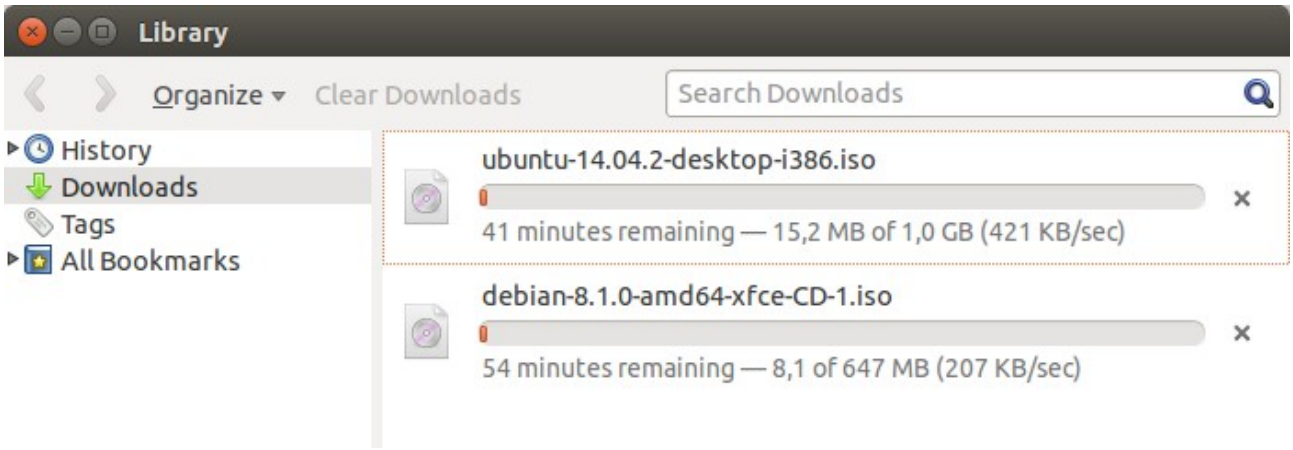
Semua route.



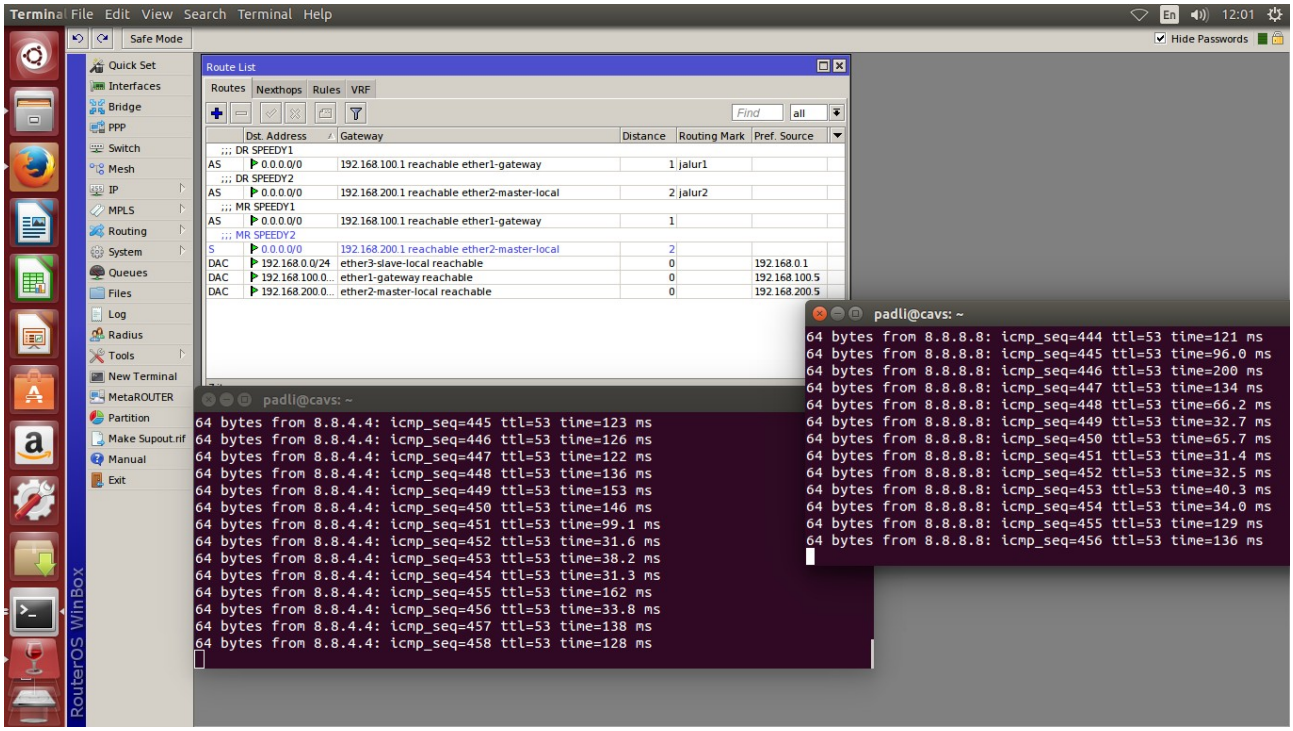
7. Tes koneksi (WAN1 + WAN2 = Rx 10 Mbps & Tx 2 Mbps).



8. Tes download (download1 ke WAN1, download2 ke WAN2, Dst).

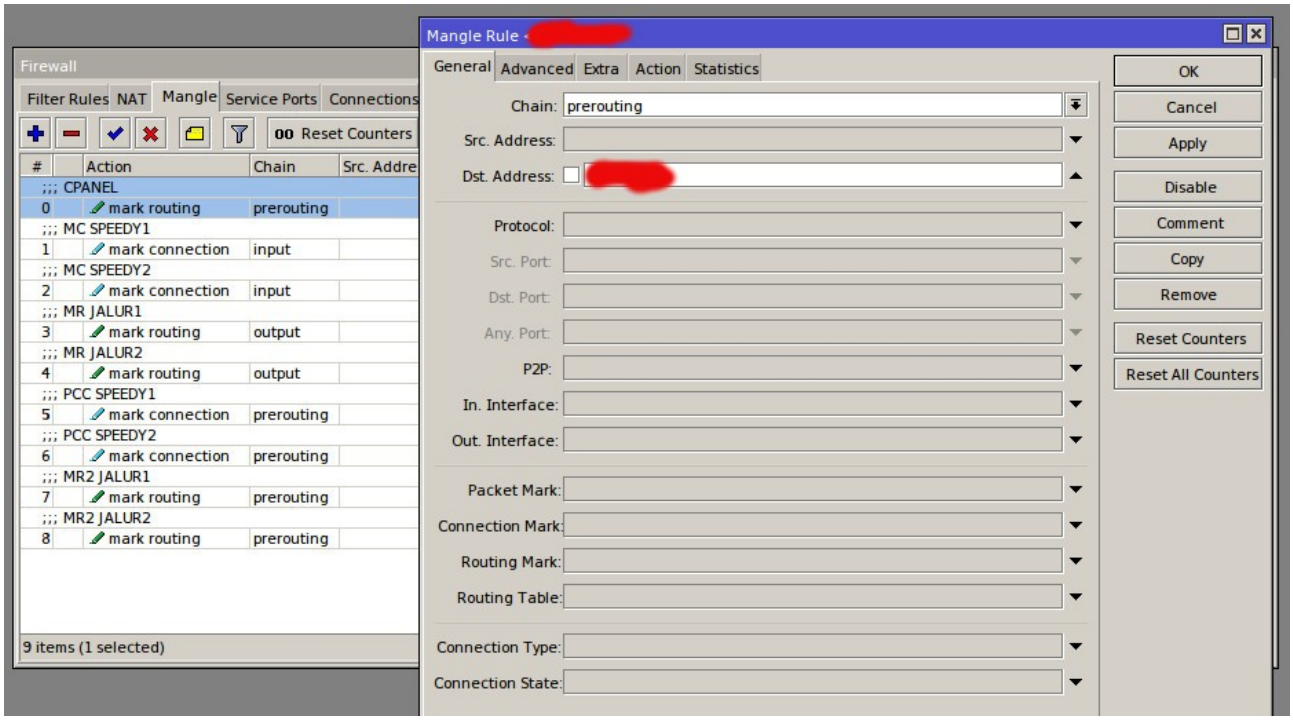


9. Tes failover (jika koneksi WAN1 down akan dialihkan ke WAN2 dan sebaliknya).

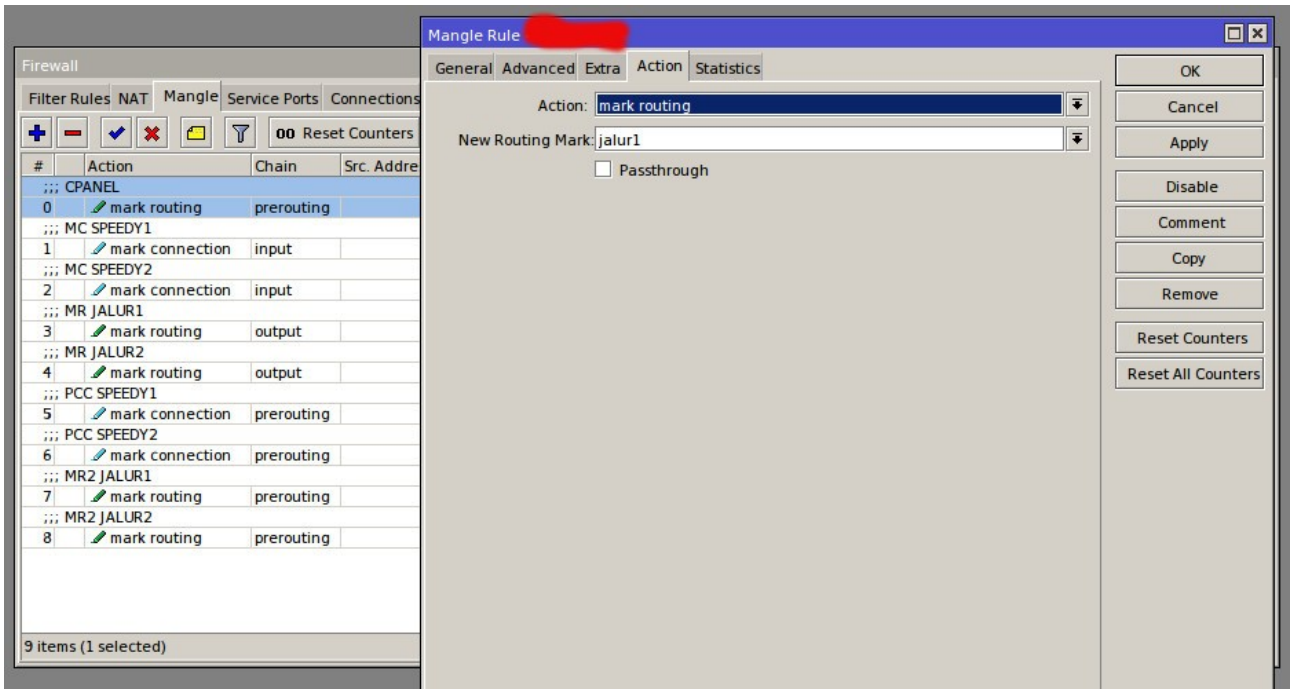


10. Jika tidak dapat akses ke akun WHM/CPANEL dikarenakan pembagian segmen PCC.

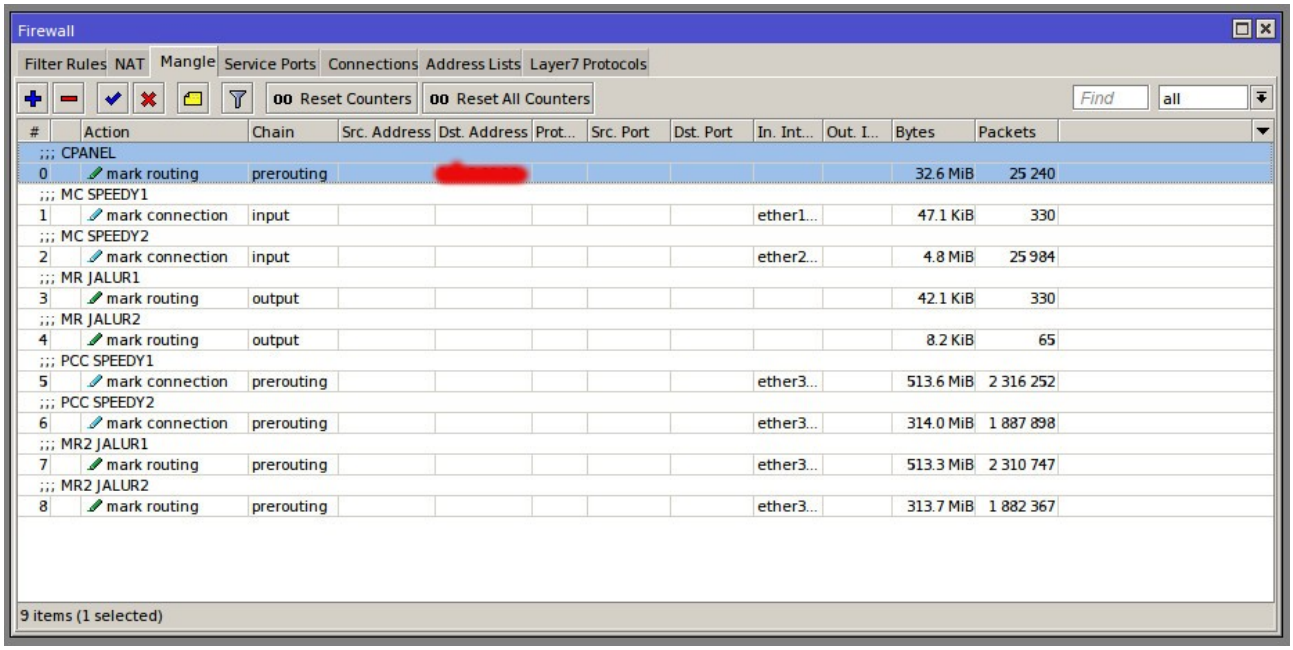
Tambahkan mangle rule untuk CPANEL/WHM (isi dst. Address dengan ip public CPANEL/WHM anda).



Set new routing mark ke salah satu jalur WAN.



Tempatkan rule CPANEL paling atas.



Note : More effective for dedicated connection WAN & multi client.

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