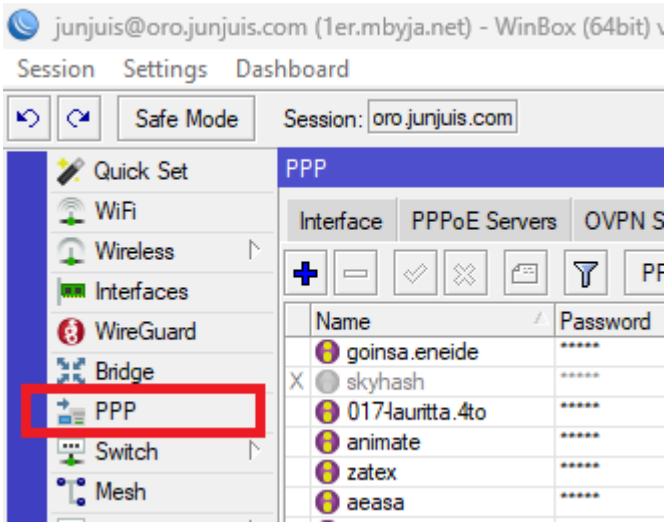
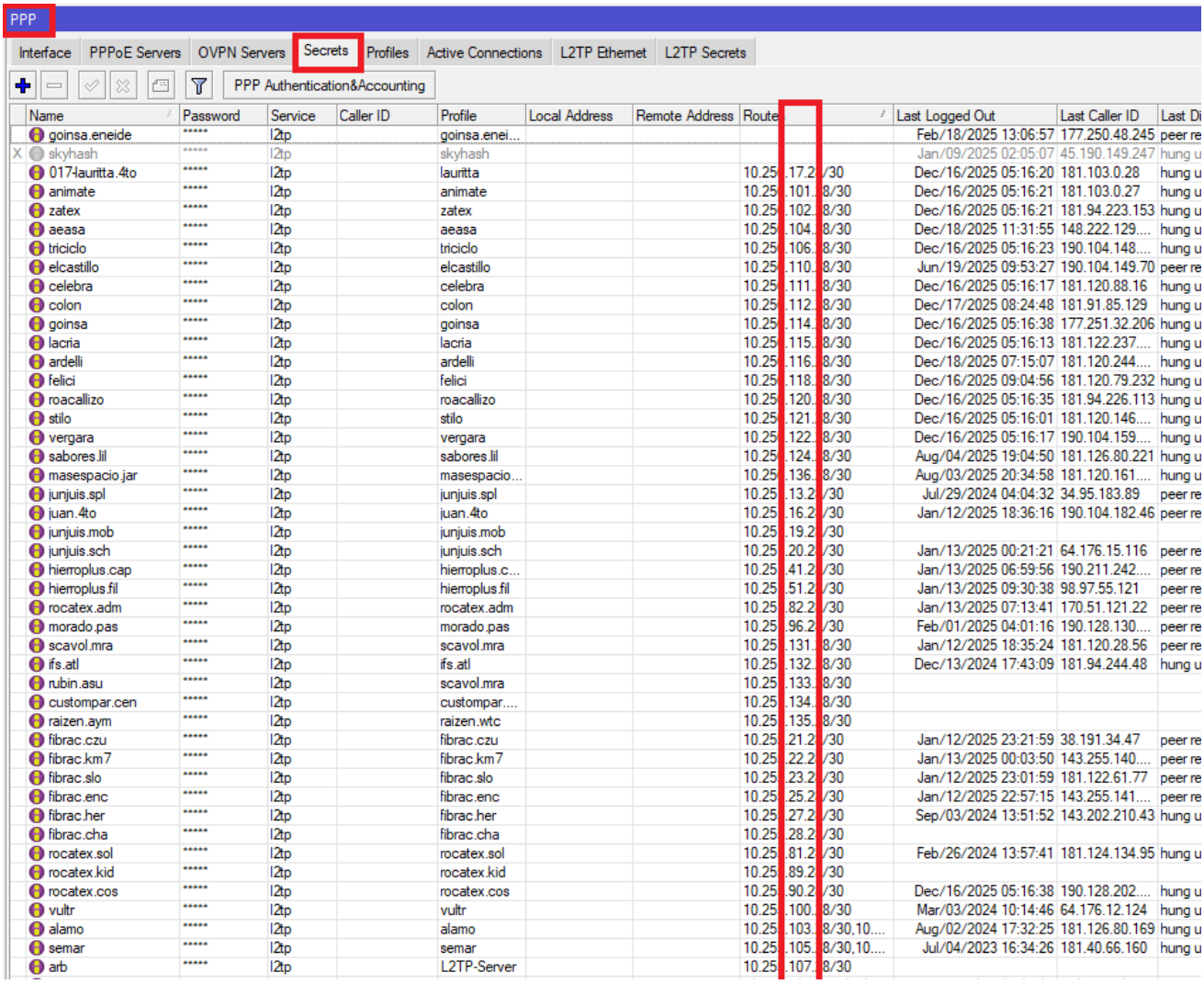
Puesta en marcha VRF

- Establecer identificador YY
- Levantar tunel principal
- Crear VRF
- Crear OSPF
- Crear FILTROS de enrutamiento dinamico
- Crear REGLAS de BGP-VPN

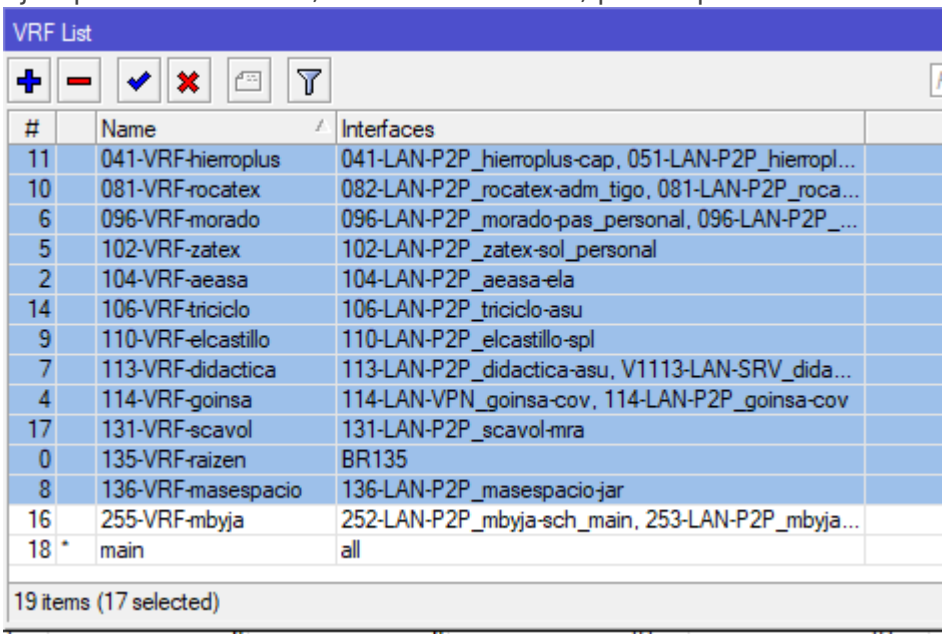
Establecer identificador YY

1. Verificar si previamente ya no se establecio un identificador dentro de MBYJA.net
    1. Buscar si el cliente ya no posee una credencial en PPP



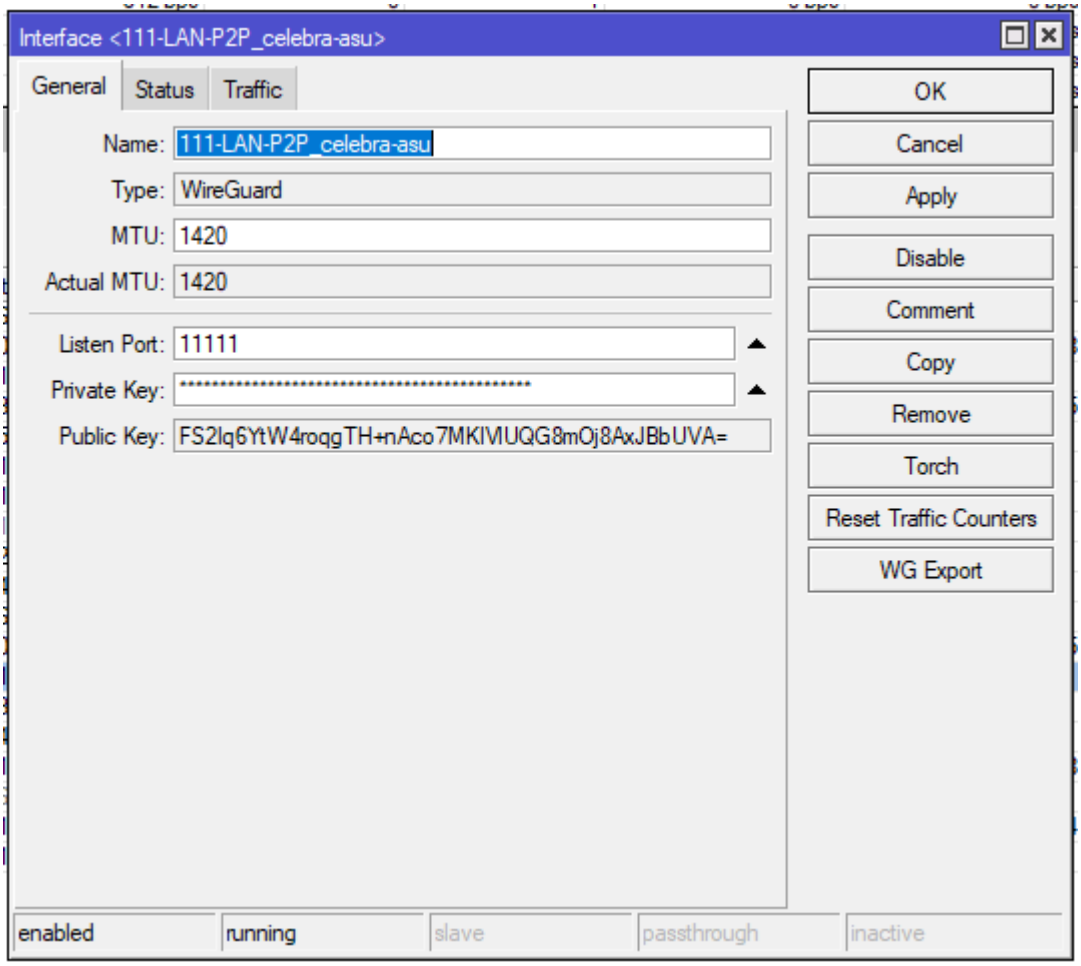


2. Si no existe, utilizar el numero de VRF: NUMERO MAXIMO +1
    1. Ejemplo: en este caso, el maximo es 136, por lo que el nuevo deberia de ser 137.

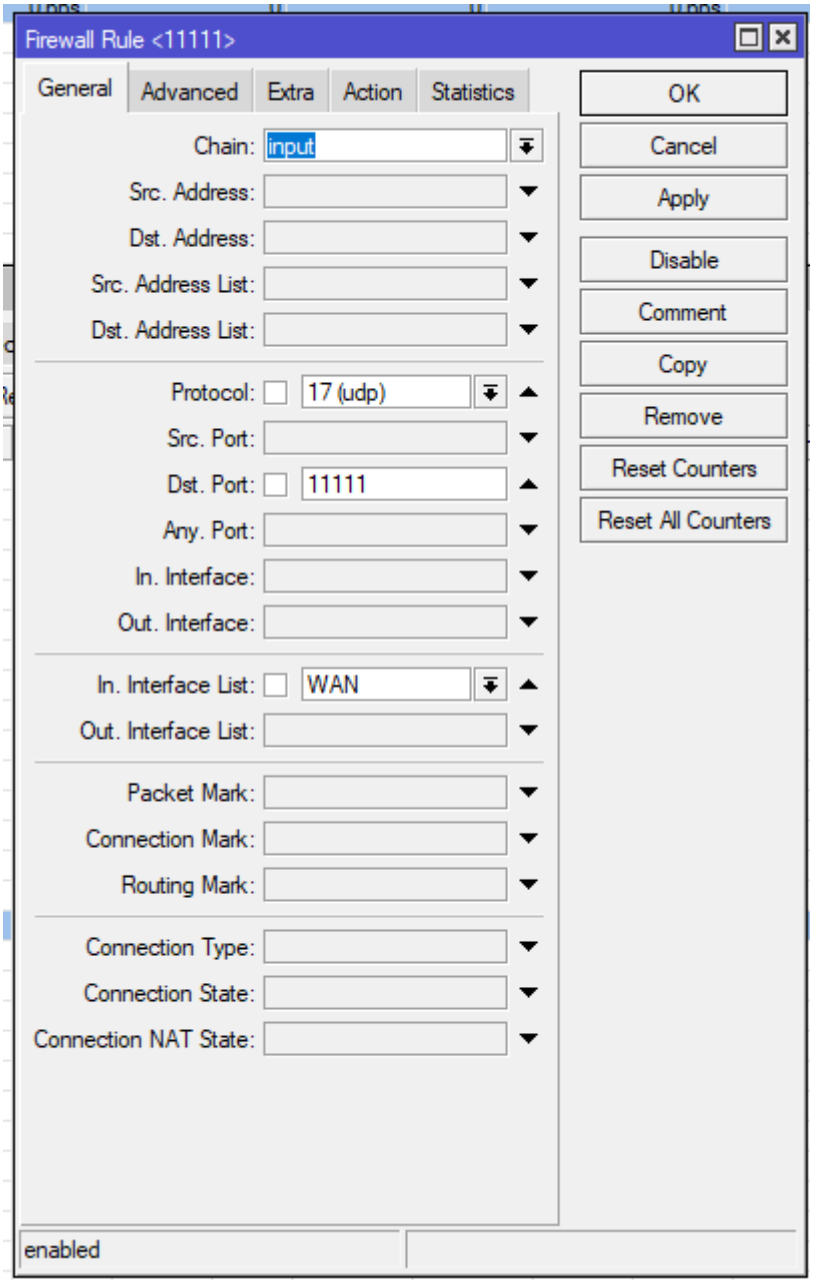


Levantar tunel principal

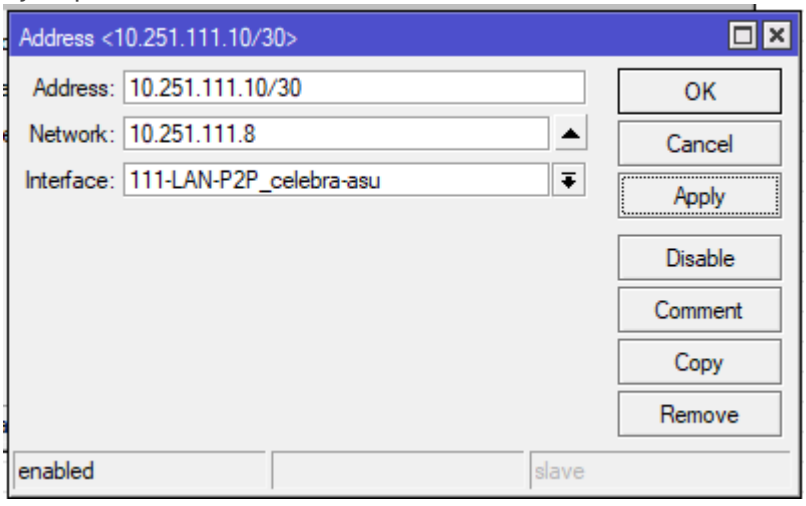
1. LADO MBYJA
    1. Crear interfaz, utilizando el YY correspondiente, tanto para el nombre como para el puerto.
        1. Nombre: **YY**-LAN-P2P_**cliente-suc**
        2. Puerto: **11YY**
        3. Ejemplo: YY=111



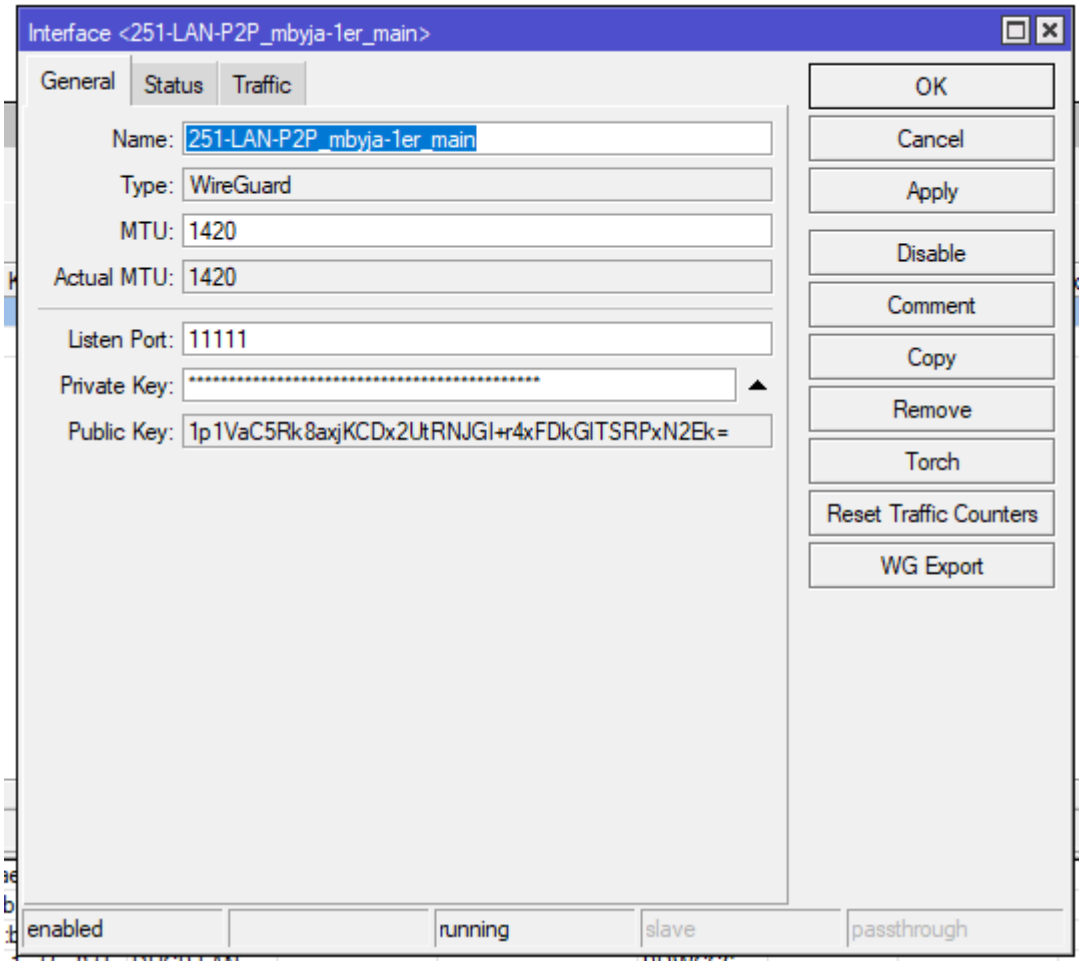
2. Agregar regla en firewall
    1. Regla INPUT que permita el acceso al puerto UDP correspondiente: 11**YY**
    Ejemplo:

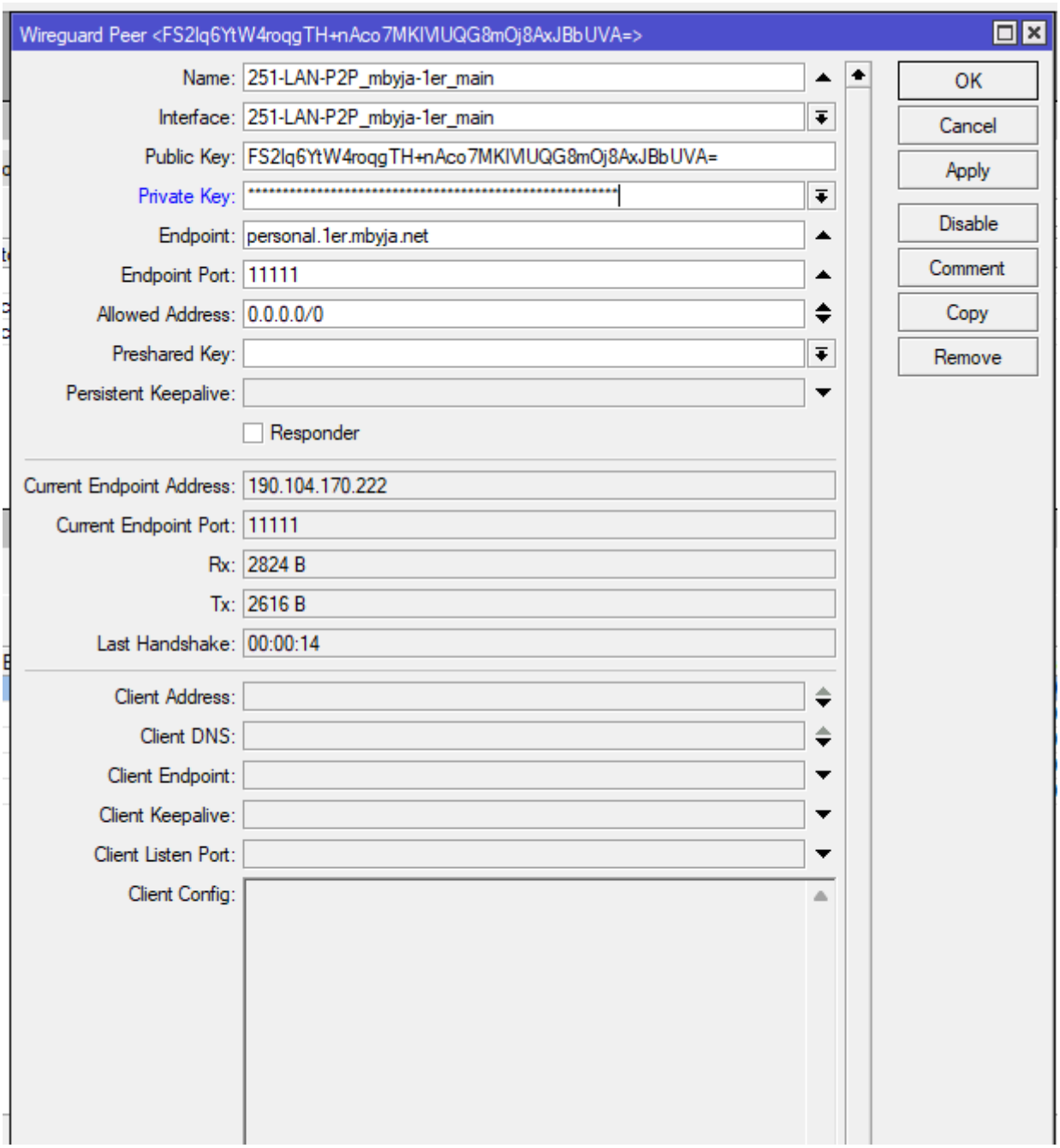


3. Asignar IP
    1. Direccion: 10.251.YY.10
    2. Ejemplo:

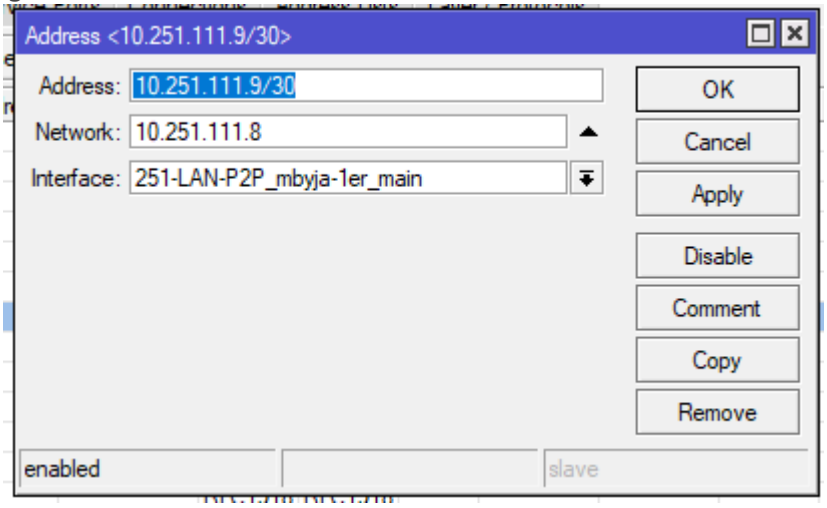


    3.

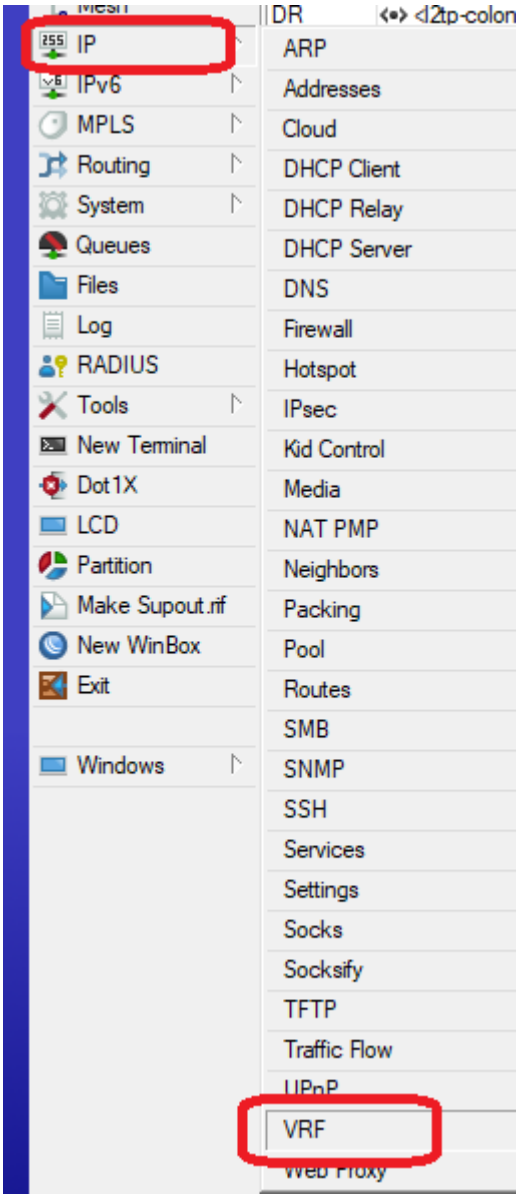
2. LADO CLIENTE
    1. En el lado del cliente, tambien agregar la interfaz y el peer correspondiente.
        1. 

2. 

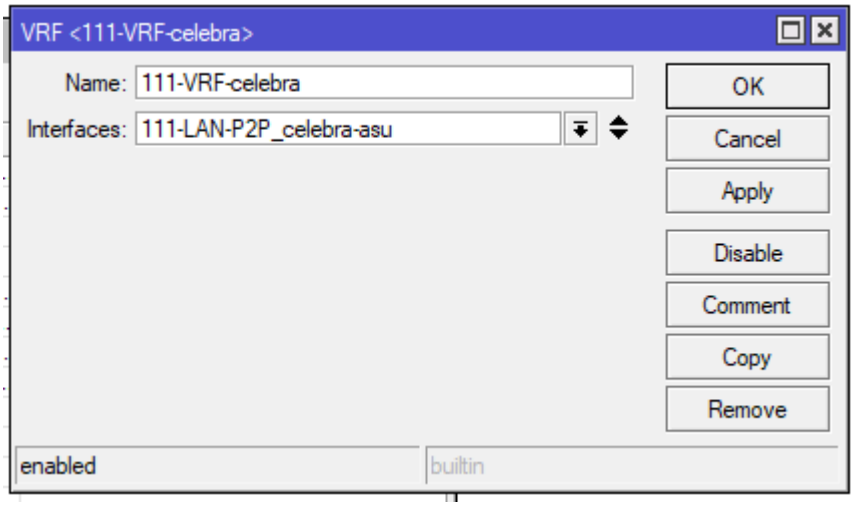
2. Asignar IP a la interfaz creada.

1. 

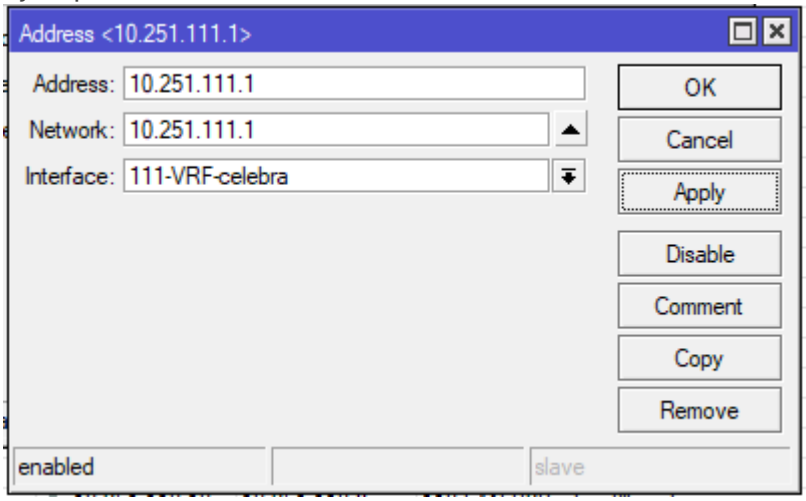
Crear VRF

1. Accedemos al menu IP > VRF
    1. 

2. Creamos un VRF
    1. Nombre: **YY**-VRF-**cliente**
    2. Interfaces: agregamos la interfaz del tunel creado.
    3. Ejemplo:
       YY: 111
       cliente: celebra



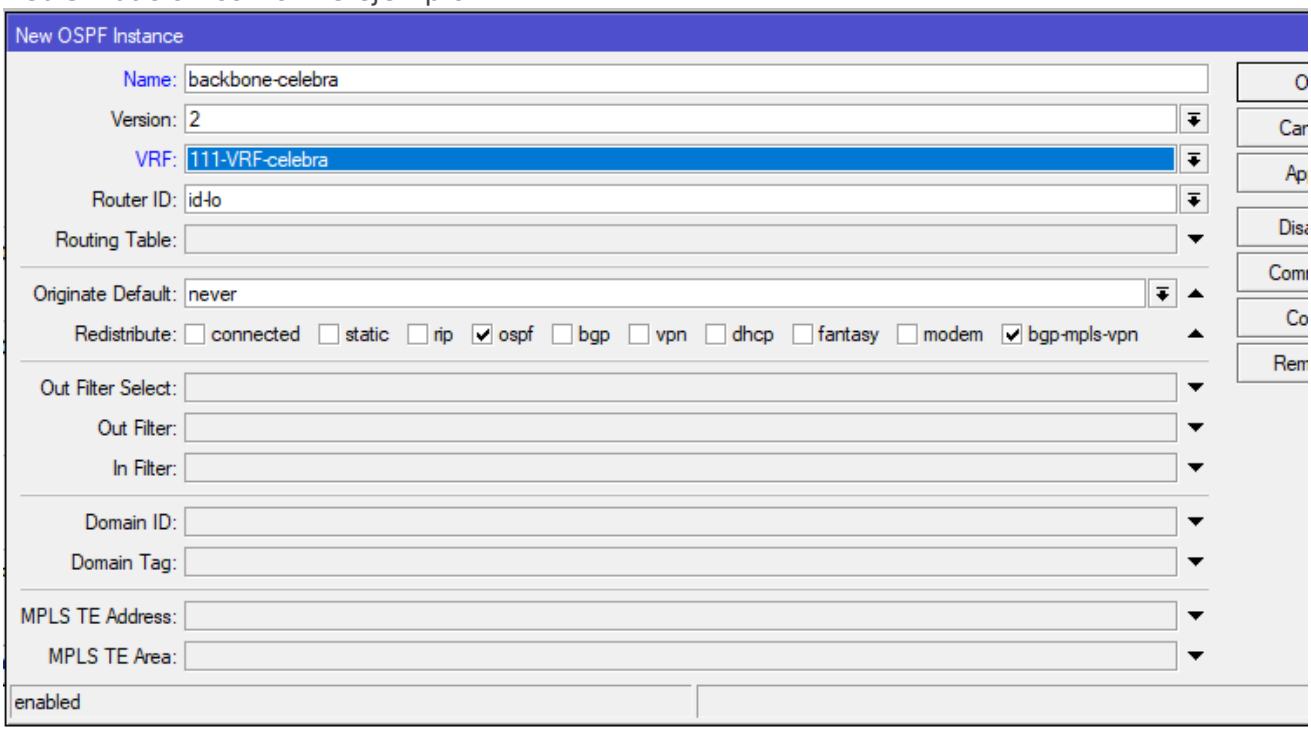
3. Asignar IP
    1. Direccion: 10.251.YY.1
    2. Ejemplo:



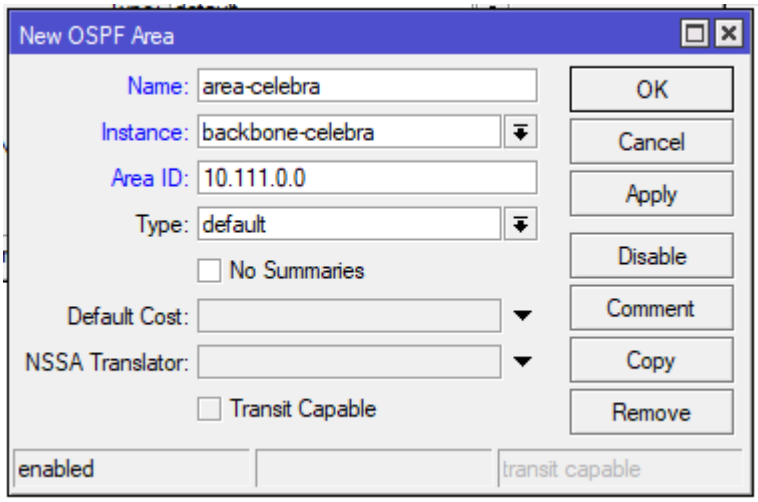
Crear OSPF

LADO SERVIDOR

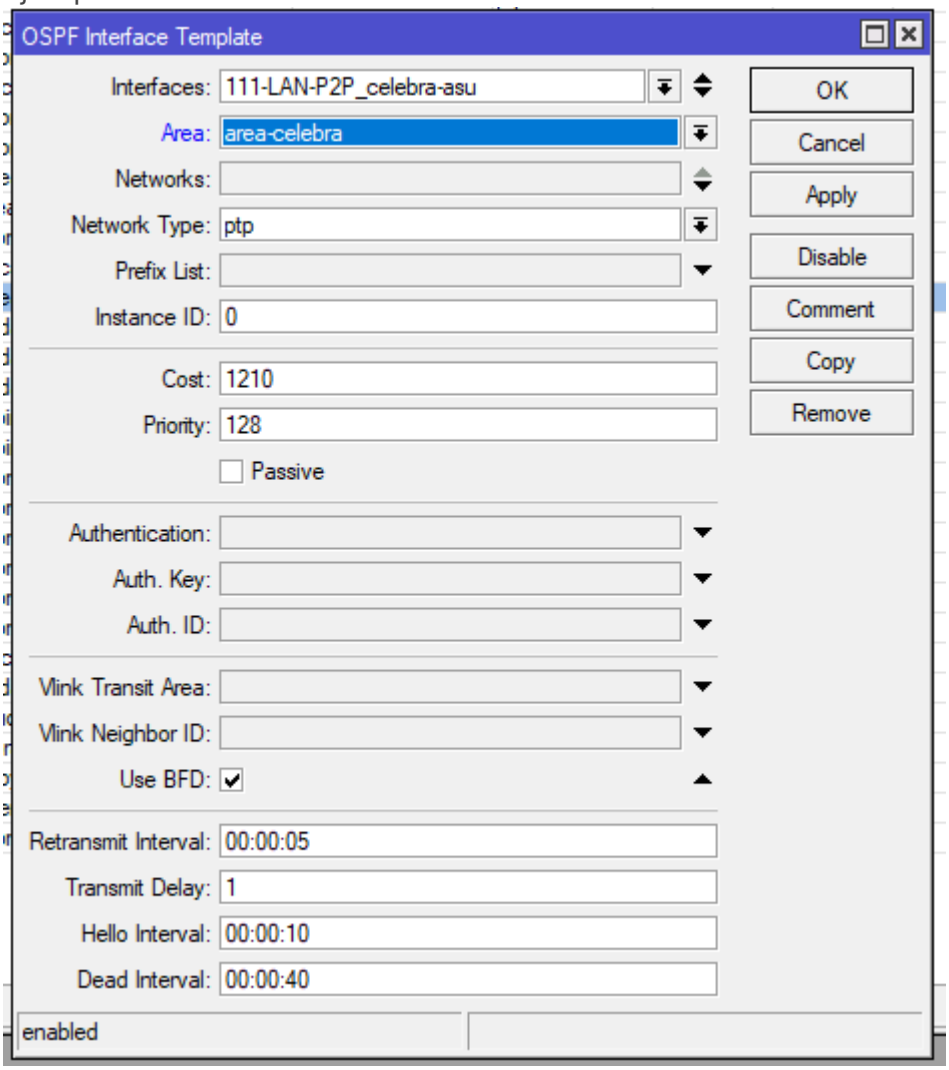
1. Crear instancia OSPF
    1. Nombre: backbone-cliente
    2. VRF: seleccionar VRF creado previamente
    3. Redistribucion conforme ejemplo



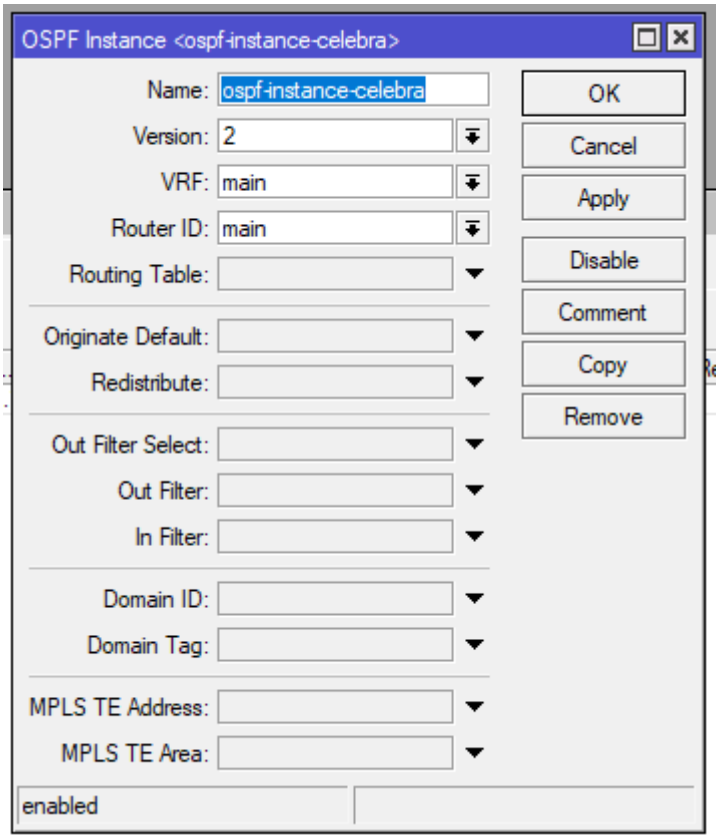
2. Crear AREA
    1. Nombre: area-cliente
    2. Instancia: seleccionar la instancia creada previamente
    3. Area ID: 10.YY.0.0
    4. Ejemplo:

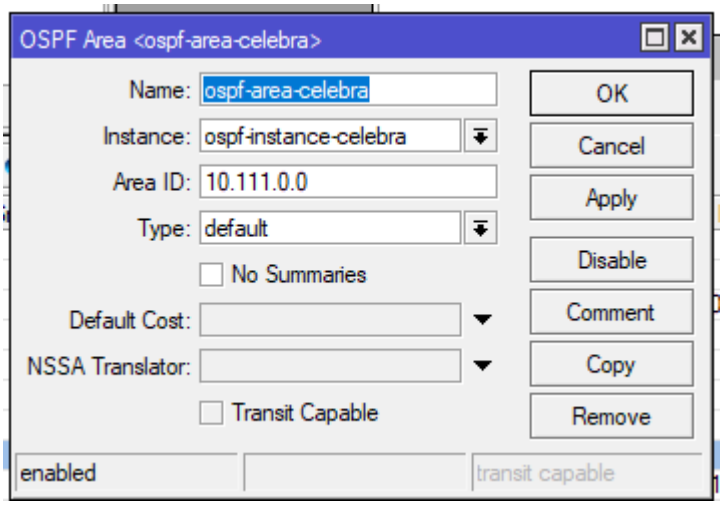


3. Crear INTERFACE
    1. Interface
    2. Area:
    3. Costo:
    4. BFD:
    5. Ejemplo:

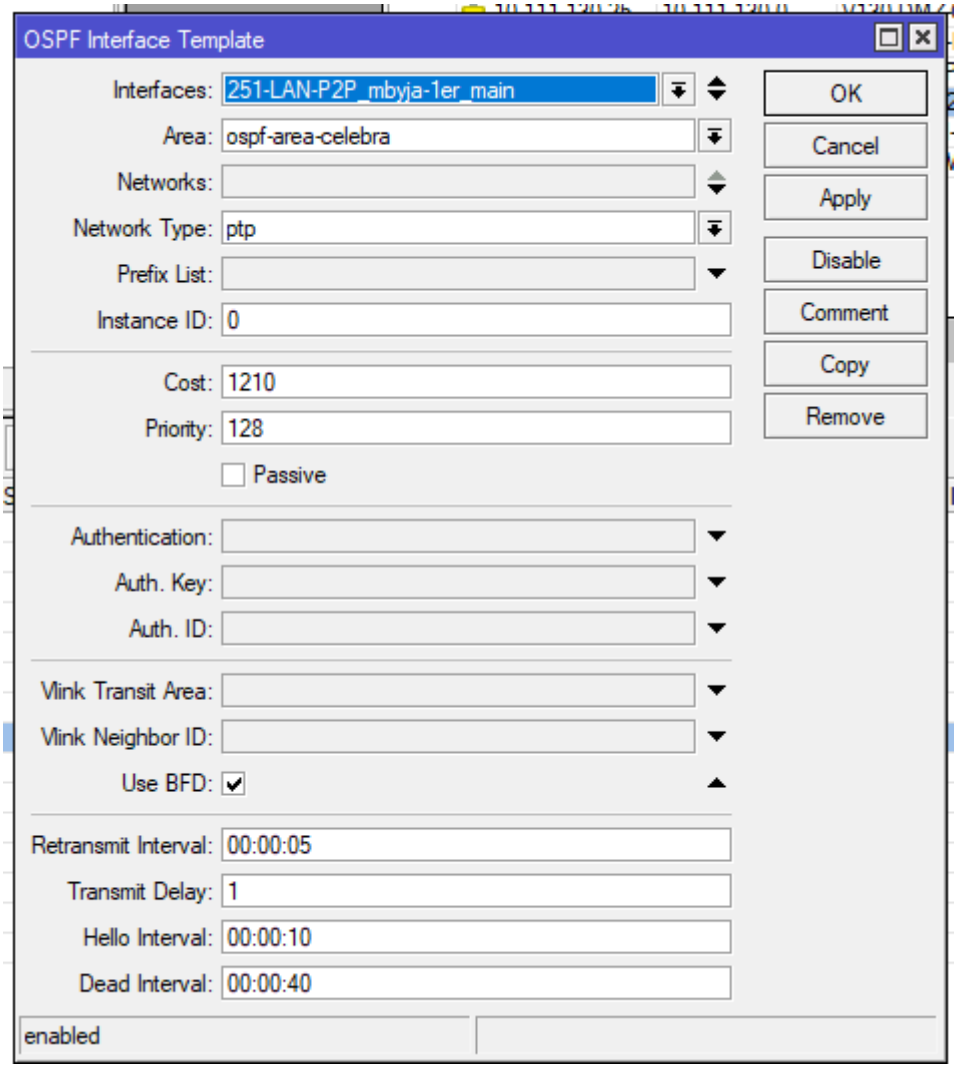


LADO CLIENTE

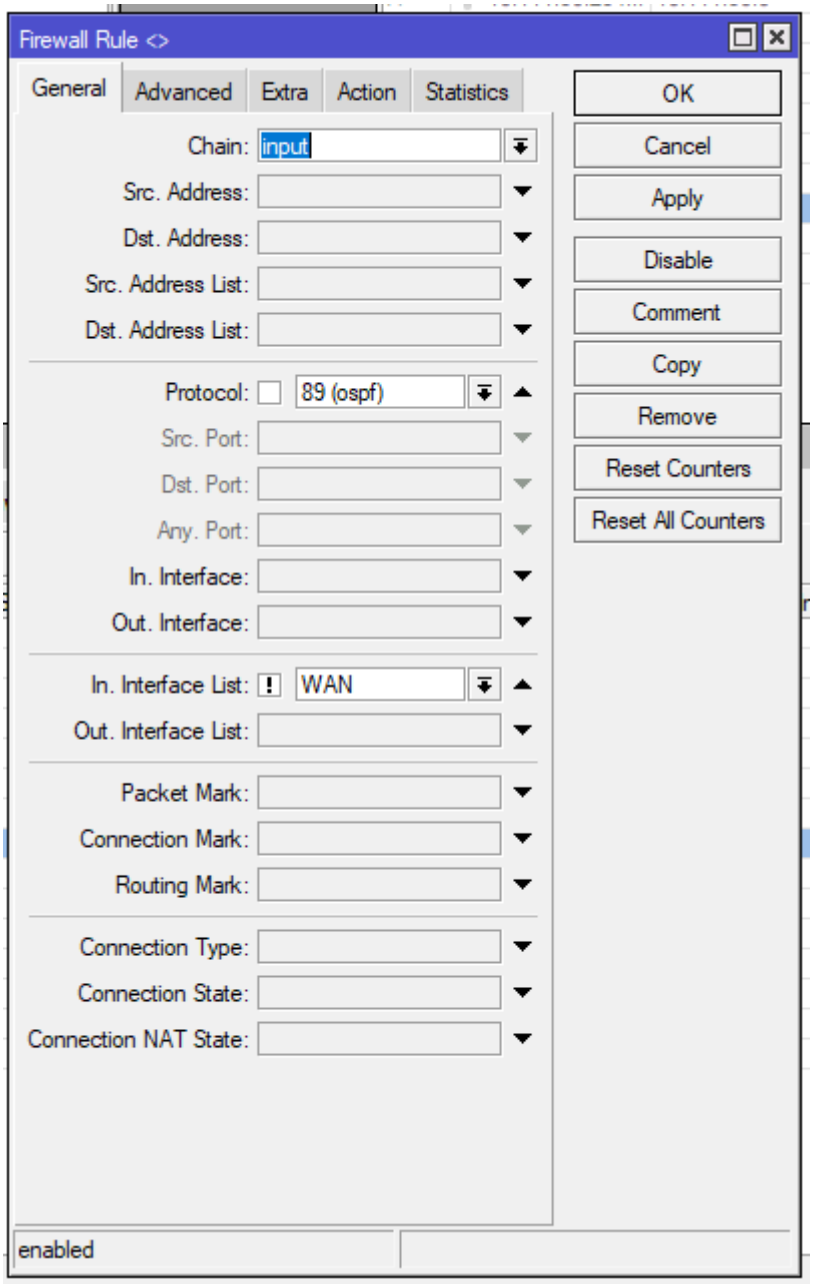
1. Crear INSTANCIA
    1. 

2. Crear AREA
    1. 

3. Crear INTERFACE PTP

1. 

4. Crear INTERFACE BROADCAST
5. Crear regla de FIREWALL

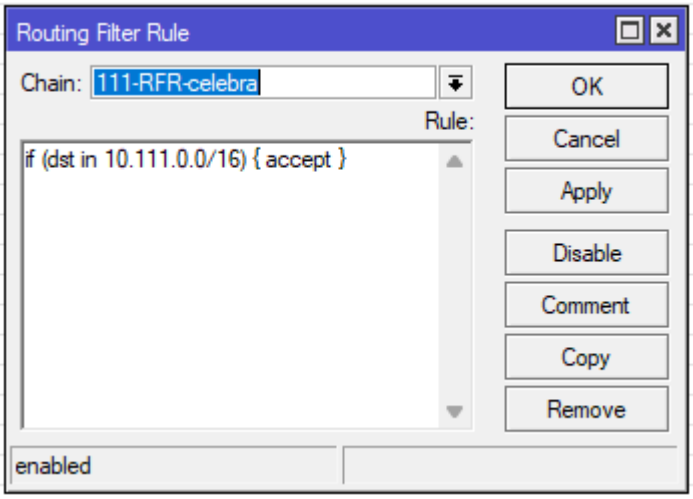
1. 
Firewall Rule <>
General
Advanced
Extra
Action
Statistics
OK
Cancel
Apply
Disable
Comment
Copy
Remove
Reset Counters
Reset All Counters
Chain: input
Src. Address:
Dst. Address:
Src. Address List:
Dst. Address List:
Protocol: 89 (ospf)
Src. Port:
Dst. Port:
Any. Port:
In. Interface:
Out. Interface:
In. Interface List: WAN
Out. Interface List:
Packet Mark:
Connection Mark:
Routing Mark:
Connection Type:
Connection State:
Connection NAT State:
enabled

Crear FILTROS de enrutamiento dinamico

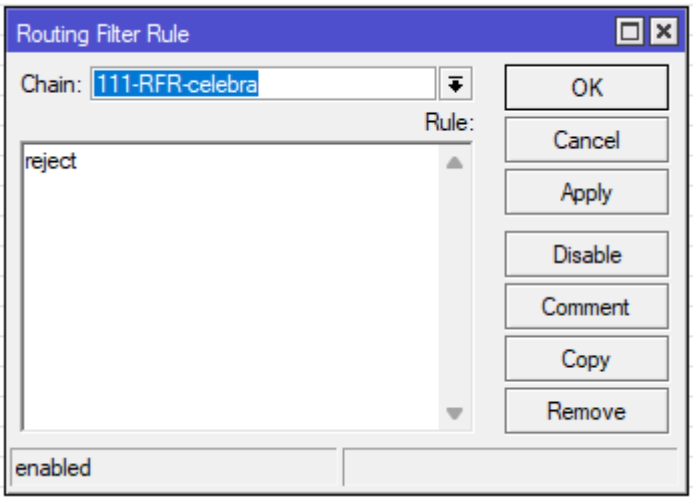
1. Ingresar al menu ROUTING > FILTERS
2. Agregar los filtros segun las redes que se deseen incluir en el enrutado dinamico.
3. Ejemplo:

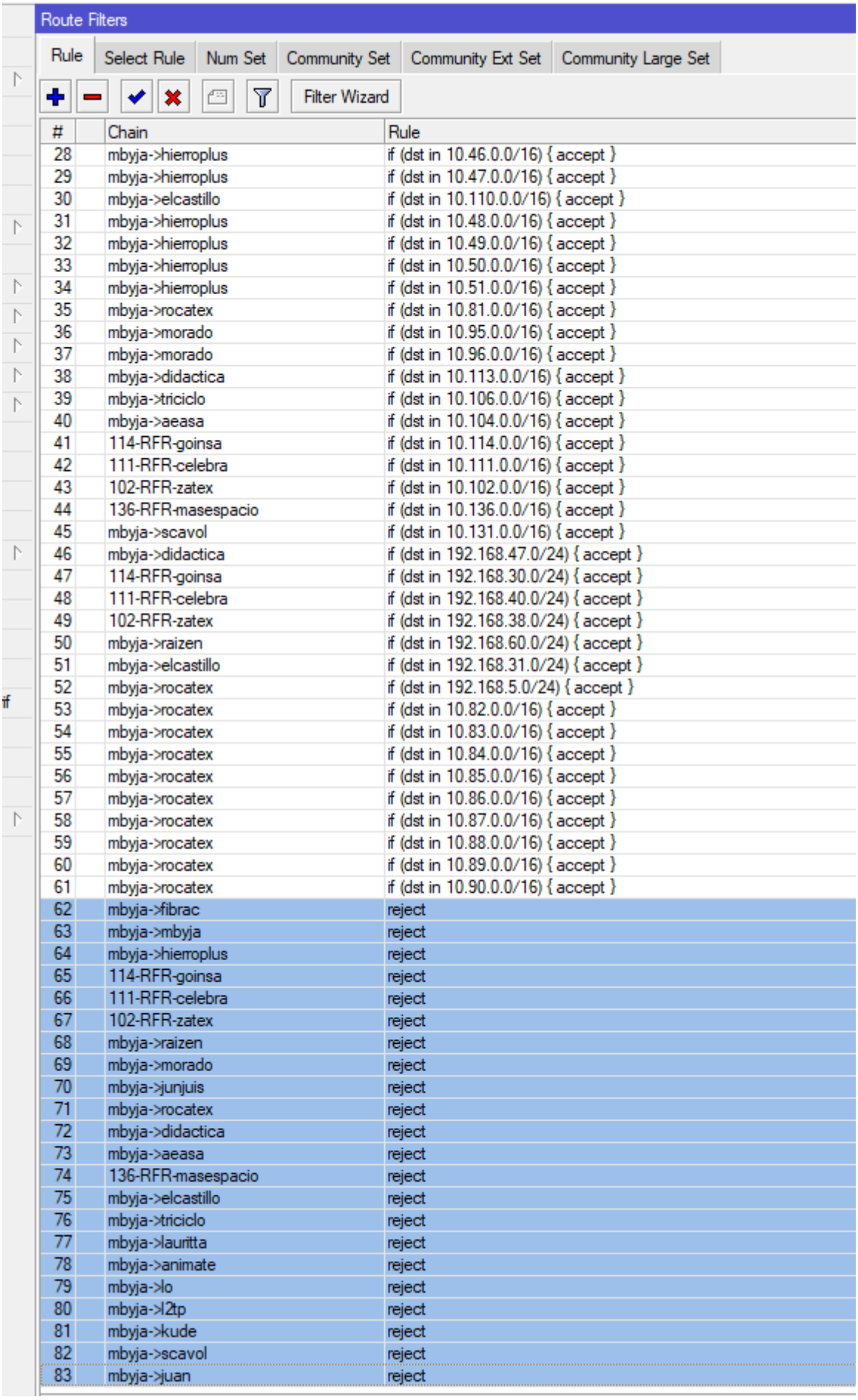
#	Chain	Rule
41	114-RFR-goinsa	if (dst in 10.114.0.0/16) { accept }
46	114-RFR-goinsa	if (dst in 192.168.30.0/24) { accept }
63	114-RFR-goinsa	reject

4. Agregar un filtro por hilo



5. Siempre el REJECT debe de quedar al final (se ordenan por ID)





Route Filters

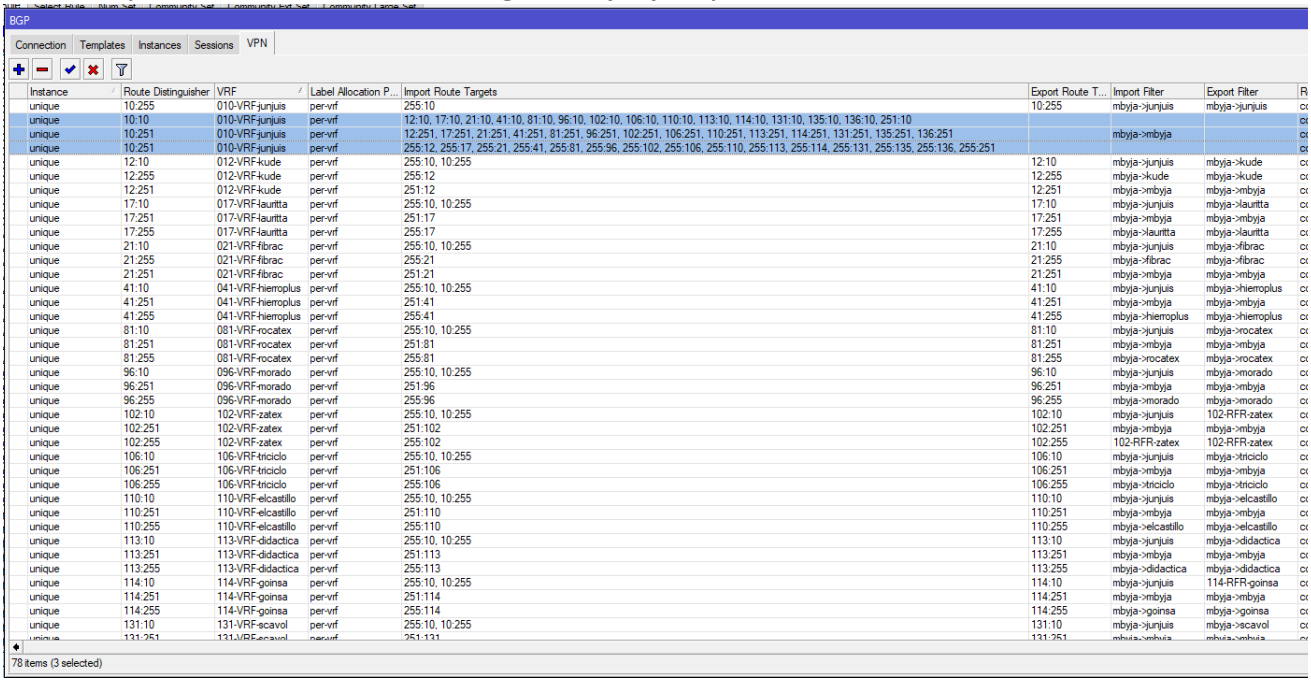
Rule | Select Rule | Num Set | Community Set | Community Ext Set | Community Large Set

Filter Wizard

#	Chain	Rule
28	mbyja->hierroplus	if (dst in 10.46.0.0/16) { accept }
29	mbyja->hierroplus	if (dst in 10.47.0.0/16) { accept }
30	mbyja->elcastillo	if (dst in 10.110.0.0/16) { accept }
31	mbyja->hierroplus	if (dst in 10.48.0.0/16) { accept }
32	mbyja->hierroplus	if (dst in 10.49.0.0/16) { accept }
33	mbyja->hierroplus	if (dst in 10.50.0.0/16) { accept }
34	mbyja->hierroplus	if (dst in 10.51.0.0/16) { accept }
35	mbyja->rocatex	if (dst in 10.81.0.0/16) { accept }
36	mbyja->morado	if (dst in 10.95.0.0/16) { accept }
37	mbyja->morado	if (dst in 10.96.0.0/16) { accept }
38	mbyja->didactica	if (dst in 10.113.0.0/16) { accept }
39	mbyja->triciclo	if (dst in 10.106.0.0/16) { accept }
40	mbyja->aeasa	if (dst in 10.104.0.0/16) { accept }
41	114-RFR-goinsa	if (dst in 10.114.0.0/16) { accept }
42	111-RFR-celebra	if (dst in 10.111.0.0/16) { accept }
43	102-RFR-zatex	if (dst in 10.102.0.0/16) { accept }
44	136-RFR-masespacio	if (dst in 10.136.0.0/16) { accept }
45	mbyja->scavol	if (dst in 10.131.0.0/16) { accept }
46	mbyja->didactica	if (dst in 192.168.47.0/24) { accept }
47	114-RFR-goinsa	if (dst in 192.168.30.0/24) { accept }
48	111-RFR-celebra	if (dst in 192.168.40.0/24) { accept }
49	102-RFR-zatex	if (dst in 192.168.38.0/24) { accept }
50	mbyja->raizen	if (dst in 192.168.60.0/24) { accept }
51	mbyja->elcastillo	if (dst in 192.168.31.0/24) { accept }
52	mbyja->rocatex	if (dst in 192.168.5.0/24) { accept }
53	mbyja->rocatex	if (dst in 10.82.0.0/16) { accept }
54	mbyja->rocatex	if (dst in 10.83.0.0/16) { accept }
55	mbyja->rocatex	if (dst in 10.84.0.0/16) { accept }
56	mbyja->rocatex	if (dst in 10.85.0.0/16) { accept }
57	mbyja->rocatex	if (dst in 10.86.0.0/16) { accept }
58	mbyja->rocatex	if (dst in 10.87.0.0/16) { accept }
59	mbyja->rocatex	if (dst in 10.88.0.0/16) { accept }
60	mbyja->rocatex	if (dst in 10.89.0.0/16) { accept }
61	mbyja->rocatex	if (dst in 10.90.0.0/16) { accept }
62	mbyja->fibrac	reject
63	mbyja->mbyja	reject
64	mbyja->hierroplus	reject
65	114-RFR-goinsa	reject
66	111-RFR-celebra	reject
67	102-RFR-zatex	reject
68	mbyja->raizen	reject
69	mbyja->morado	reject
70	mbyja->junjuis	reject
71	mbyja->rocatex	reject
72	mbyja->didactica	reject
73	mbyja->aeasa	reject
74	136-RFR-masespacio	reject
75	mbyja->elcastillo	reject
76	mbyja->triciclo	reject
77	mbyja->lauritta	reject
78	mbyja->animate	reject
79	mbyja->lo	reject
80	mbyja->l2tp	reject
81	mbyja->kude	reject
82	mbyja->scavol	reject
83	mbyja->juan	reject

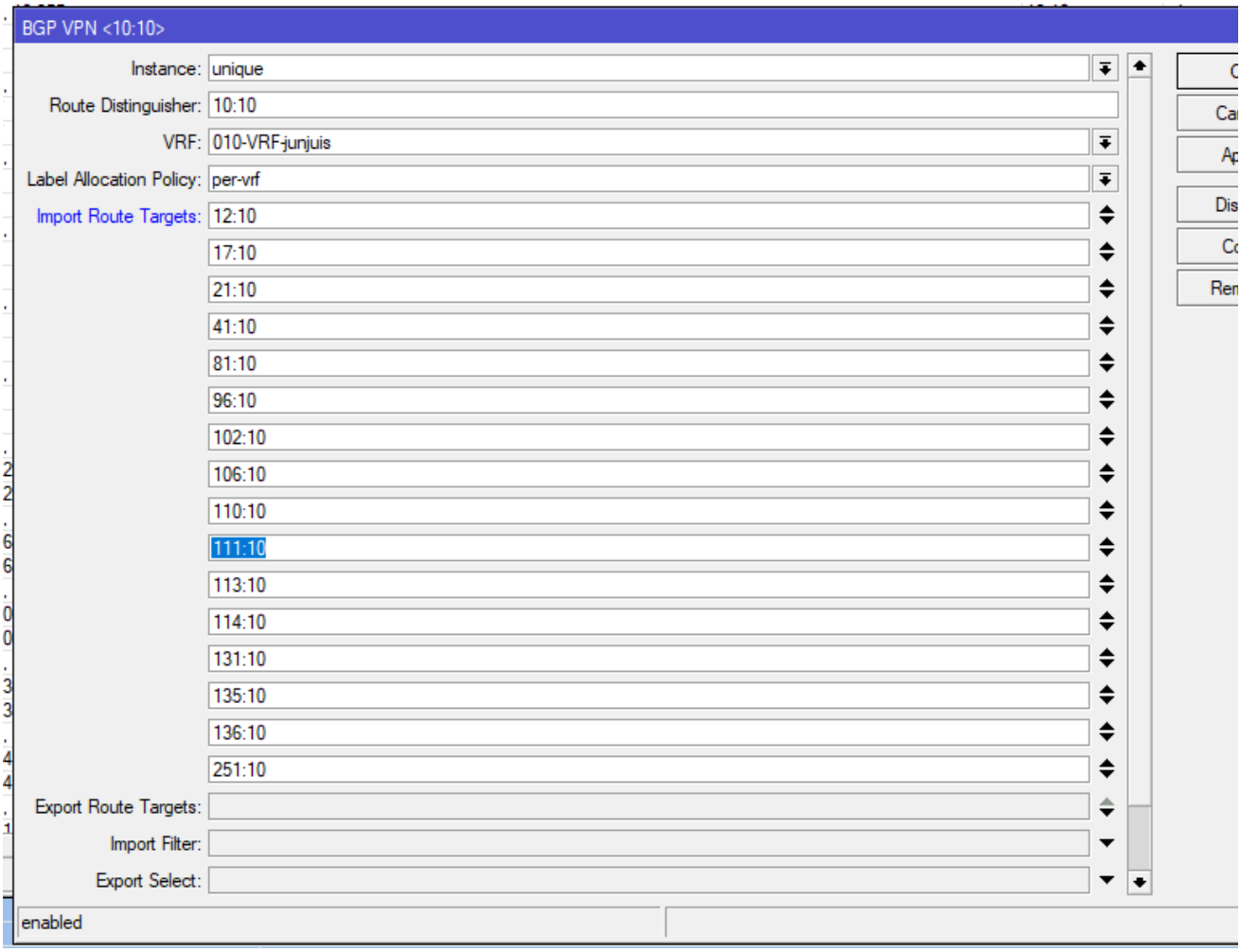
Crear REGLAS de BGP-VPN

1. Ingresar al ROUTING > BGP
2. Ingresar a la pestaña VPN
    1. Ordenar por VRF e identificar las reglas de junjuis para con otros clientes.

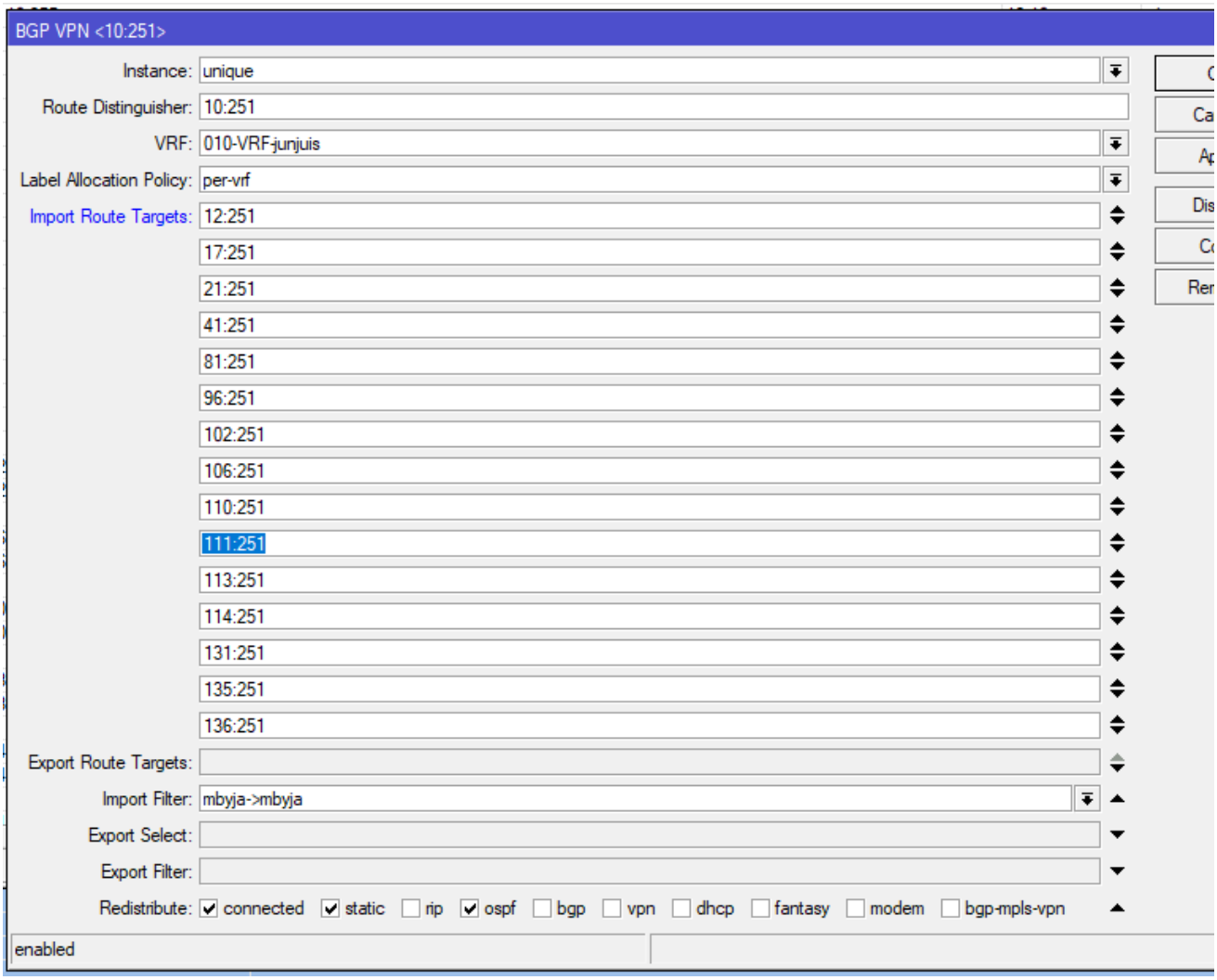


Instance	Route Distinguisher	VRF	Label Allocation P...	Import Route Targets	Export Route T...	Import Filter	Export Filter
unique	10:255	010-VRF-junjuis	per-vrf	255:10	10:255	mbyja->junjuis	mbyja->junjuis
unique	10:10	010-VRF-junjuis	per-vrf	12:10, 17:10, 21:10, 41:10, 81:10, 96:10, 102:10, 106:10, 110:10, 113:10, 114:10, 131:10, 135:10, 136:10, 251:10			
unique	10:251	010-VRF-junjuis	per-vrf	12:251, 17:251, 21:251, 41:251, 81:251, 96:251, 102:251, 106:251, 110:251, 113:251, 114:251, 131:251, 135:251, 136:251		mbyja->mbyja	
unique	10:251	010-VRF-junjuis	per-vrf	255:12, 255:17, 255:21, 255:41, 255:81, 255:96, 255:102, 255:106, 255:110, 255:113, 255:114, 255:131, 255:135, 255:136, 255:251			
unique	12:10	012-VRF-kude	per-vrf	255:10, 10:255	12:10	mbyja->junjuis	mbyja->kude
unique	12:255	012-VRF-kude	per-vrf	255:12	12:255	mbyja->kude	mbyja->kude
unique	12:251	012-VRF-kude	per-vrf	251:12	12:251	mbyja->mbyja	mbyja->mbyja
unique	17:10	017-VRF-lauritta	per-vrf	255:10, 10:255	17:10	mbyja->junjuis	mbyja->lauritta
unique	17:251	017-VRF-lauritta	per-vrf	251:17	17:251	mbyja->mbyja	mbyja->mbyja
unique	17:255	017-VRF-lauritta	per-vrf	255:17	17:255	mbyja->lauritta	mbyja->lauritta
unique	21:10	021-VRF-fibrac	per-vrf	255:10, 10:255	21:10	mbyja->junjuis	mbyja->fibrac
unique	21:255	021-VRF-fibrac	per-vrf	255:21	21:255	mbyja->fibrac	mbyja->fibrac
unique	21:251	021-VRF-fibrac	per-vrf	251:21	21:251	mbyja->mbyja	mbyja->mbyja
unique	41:10	041-VRF-hierroplus	per-vrf	255:10, 10:255	41:10	mbyja->junjuis	mbyja->hierroplus
unique	41:251	041-VRF-hierroplus	per-vrf	251:41	41:251	mbyja->mbyja	mbyja->mbyja
unique	41:255	041-VRF-hierroplus	per-vrf	255:41	41:255	mbyja->hierroplus	mbyja->hierroplus
unique	81:10	081-VRF-rocatex	per-vrf	255:10, 10:255	81:10	mbyja->junjuis	mbyja->rocatex
unique	81:251	081-VRF-rocatex	per-vrf	251:81	81:251	mbyja->mbyja	mbyja->mbyja
unique	81:255	081-VRF-rocatex	per-vrf	255:81	81:255	mbyja->rocatex	mbyja->rocatex
unique	96:10	096-VRF-morado	per-vrf	255:10, 10:255	96:10	mbyja->junjuis	mbyja->morado
unique	96:251	096-VRF-morado	per-vrf	251:96	96:251	mbyja->mbyja	mbyja->mbyja
unique	96:255	096-VRF-morado	per-vrf	255:96	96:255	mbyja->morado	mbyja->morado
unique	102:10	102-VRF-zatex	per-vrf	255:10, 10:255	102:10	mbyja->junjuis	102-RFR-zatex
unique	102:251	102-VRF-zatex	per-vrf	251:102	102:251	mbyja->mbyja	mbyja->mbyja
unique	102:255	102-VRF-zatex	per-vrf	255:102	102:255	102-RFR-zatex	102-RFR-zatex
unique	106:10	106-VRF-triciclo	per-vrf	255:10, 10:255	106:10	mbyja->junjuis	mbyja->triciclo
unique	106:251	106-VRF-triciclo	per-vrf	251:106	106:251	mbyja->mbyja	mbyja->mbyja
unique	106:255	106-VRF-triciclo	per-vrf	255:106	106:255	mbyja->triciclo	mbyja->triciclo
unique	110:10	110-VRF-elcastillo	per-vrf	255:10, 10:255	110:10	mbyja->junjuis	mbyja->elcastillo
unique	110:251	110-VRF-elcastillo	per-vrf	251:110	110:251	mbyja->mbyja	mbyja->mbyja
unique	110:255	110-VRF-elcastillo	per-vrf	255:110	110:255	mbyja->elcastillo	mbyja->elcastillo
unique	113:10	113-VRF-didactica	per-vrf	255:10, 10:255	113:10	mbyja->junjuis	mbyja->didactica
unique	113:251	113-VRF-didactica	per-vrf	251:113	113:251	mbyja->mbyja	mbyja->mbyja
unique	113:255	113-VRF-didactica	per-vrf	255:113	113:255	mbyja->didactica	mbyja->didactica
unique	114:10	114-VRF-goinsa	per-vrf	255:10, 10:255	114:10	mbyja->junjuis	114-RFR-goinsa
unique	114:251	114-VRF-goinsa	per-vrf	251:114	114:251	mbyja->mbyja	mbyja->mbyja
unique	114:255	114-VRF-goinsa	per-vrf	255:114	114:255	mbyja->goinsa	mbyja->goinsa
unique	131:10	131-VRF-scavol	per-vrf	255:10, 10:255	131:10	mbyja->junjuis	mbyja->scavol

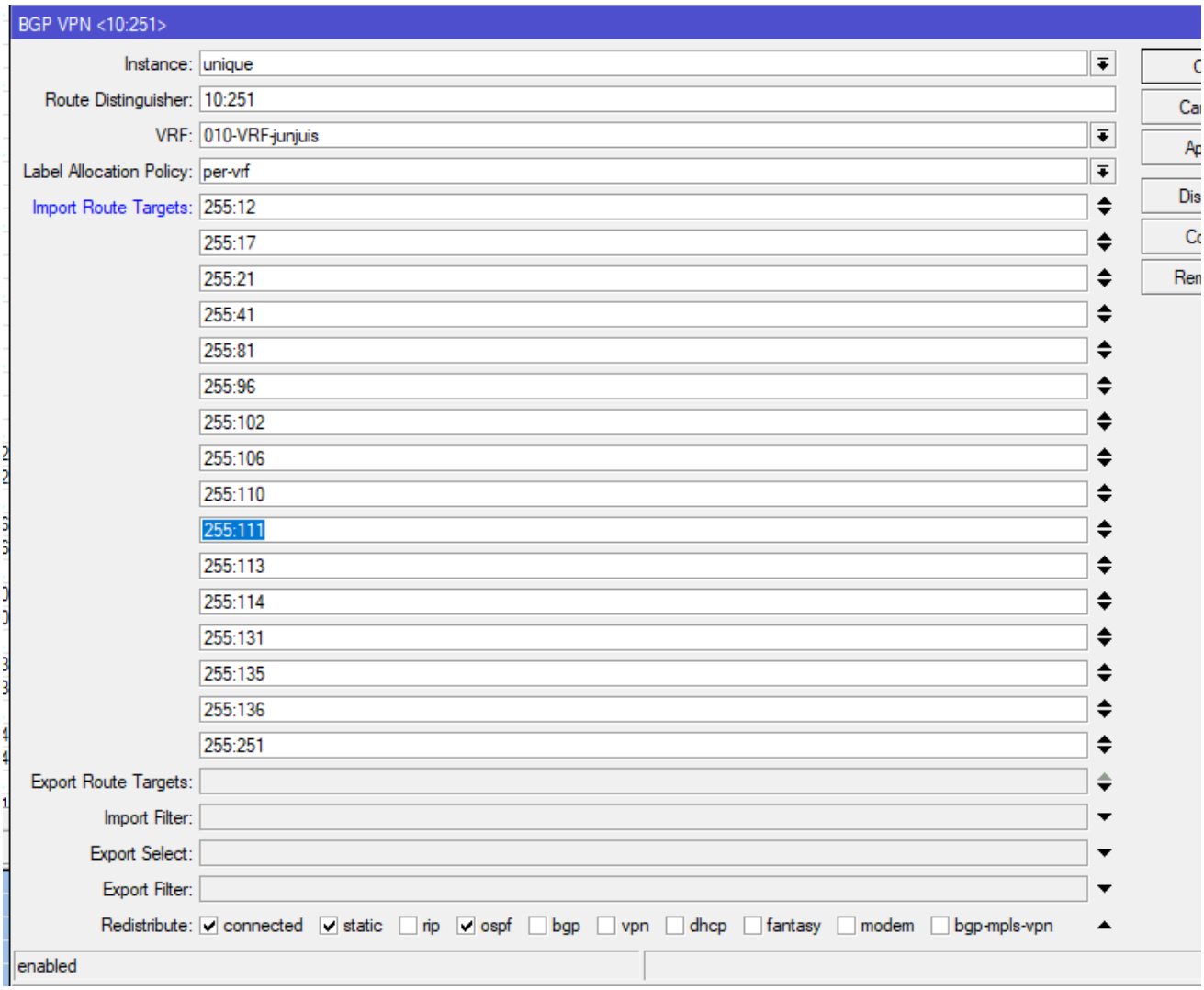
    2. En la regla con route distinguisher **10:10** agregar import target **YY**:**10**



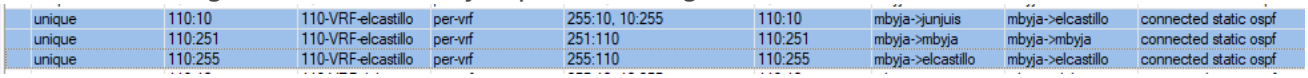
3. En la regla con route distinguisher **10:251 (1)** agregar import target **YY**:**251**



4. En la regla con route distinguisher **10:251 (2)** agregar import target **255:YY**

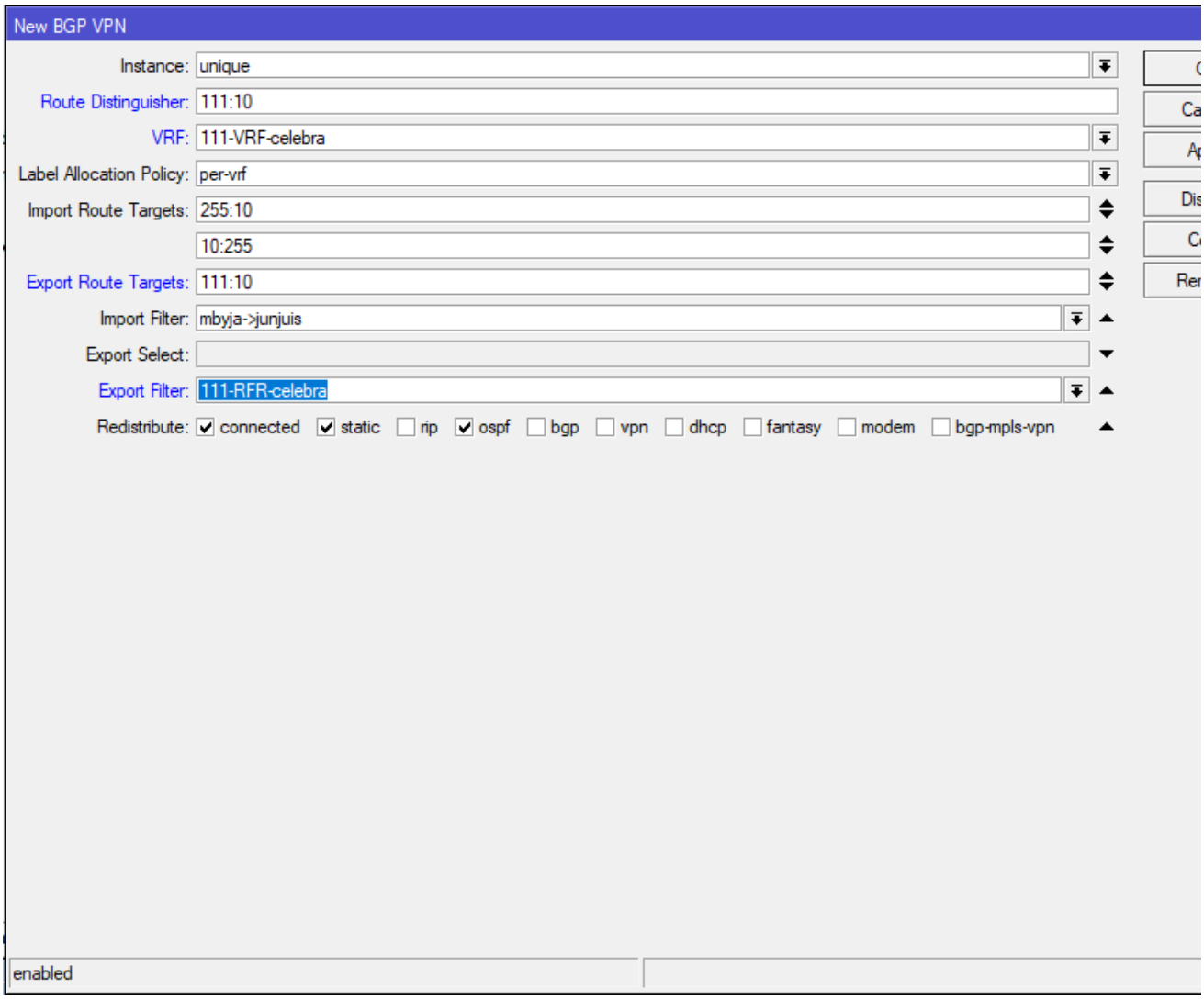


5. Identificar 3 reglas de un cliente y replicar las reglas

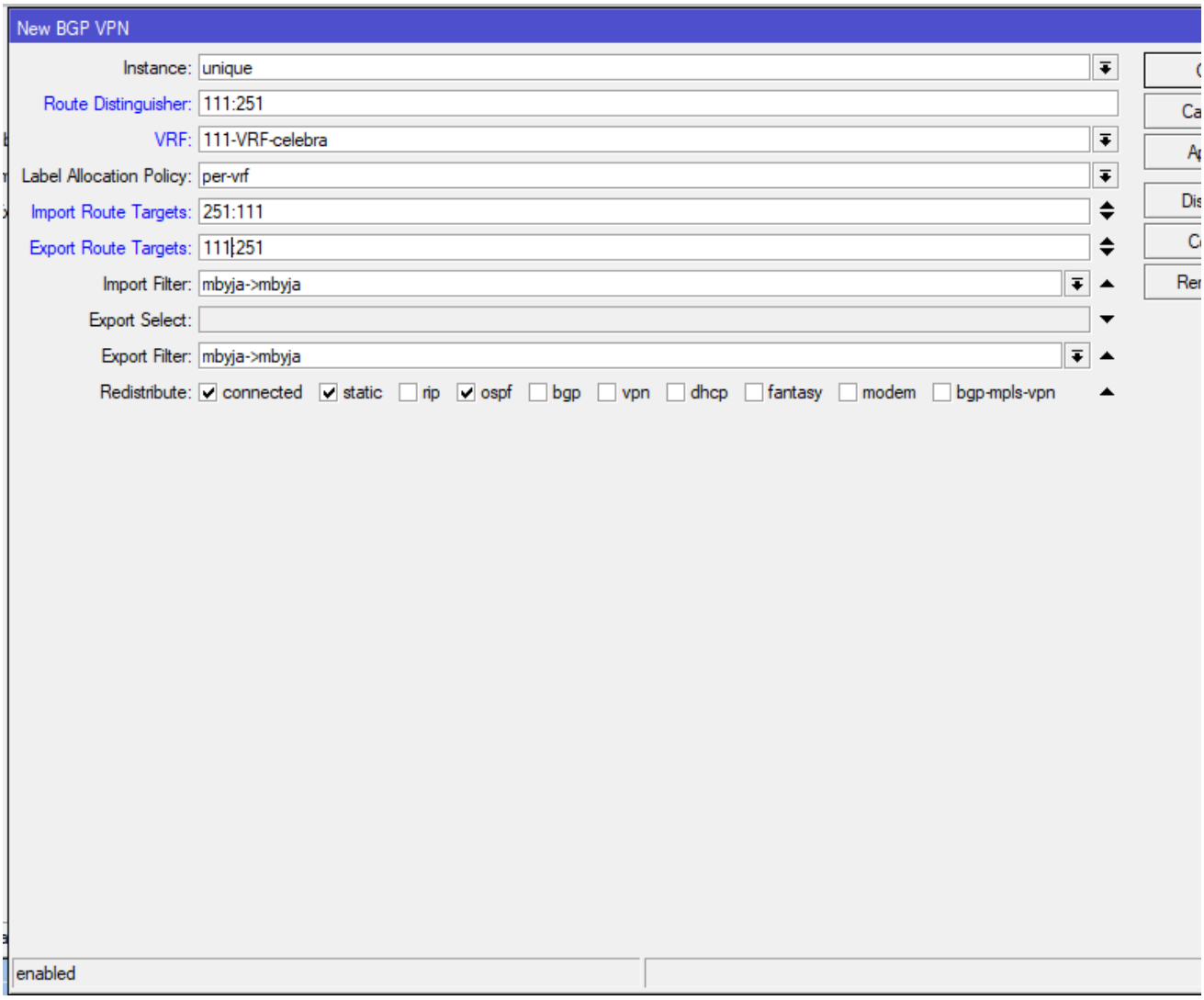


unique	110:10	110-VRF-elcastillo	per-vrf	255:10, 10:255	110:10	mbyja->junjuis	mbyja->elcastillo	connected static ospf
unique	110:251	110-VRF-elcastillo	per-vrf	251:110	110:251	mbyja->mbyja	mbyja->mbyja	connected static ospf
unique	110:255	110-VRF-elcastillo	per-vrf	255:110	110:255	mbyja->elcastillo	mbyja->elcastillo	connected static ospf

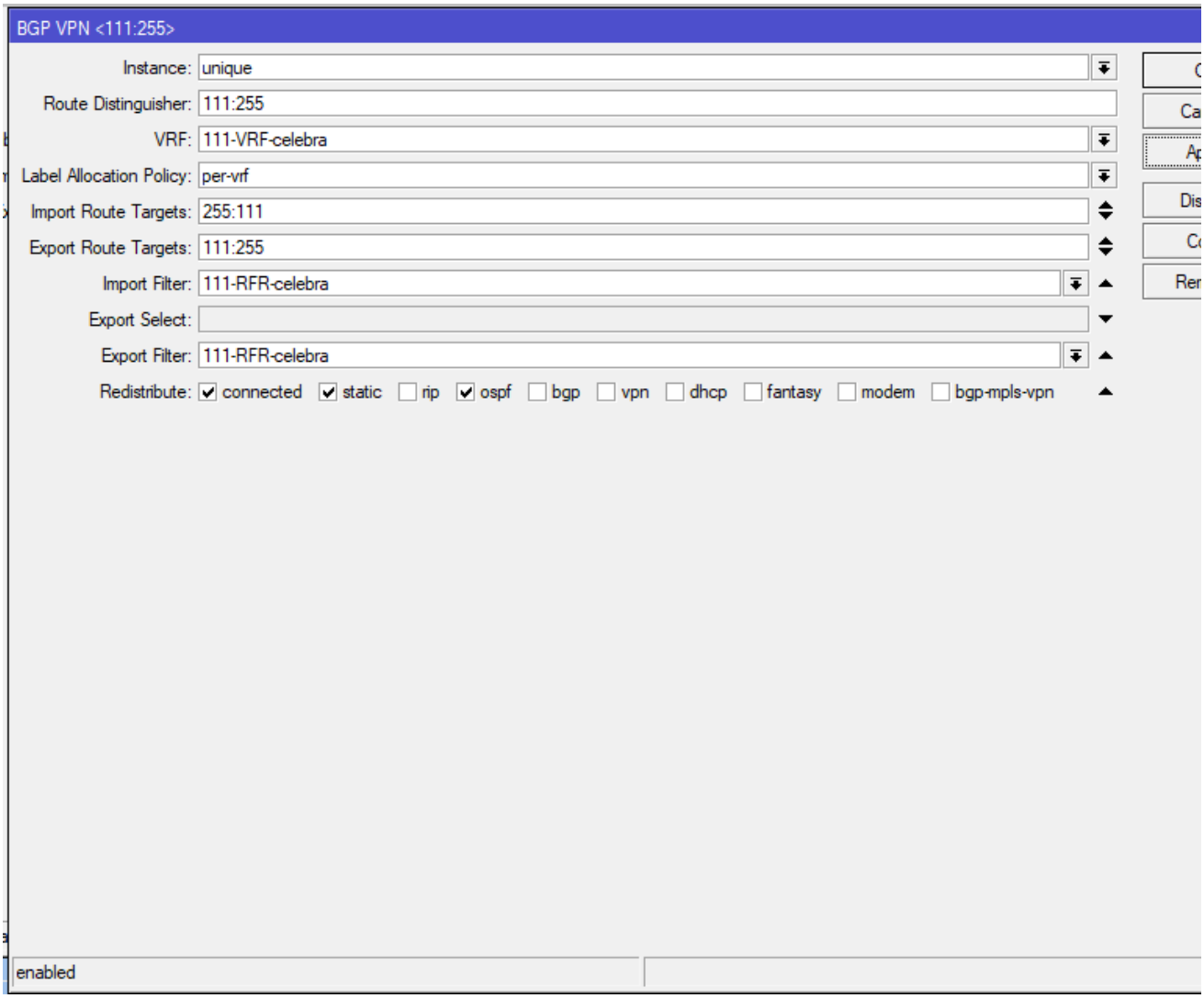
6. En la regla con route distinguisher **YY:10**



7. En la regla con route distinguisher **YY:251**



8. En la regla con route distinguisher **YY:255**


BGP VPN <111:255>
Instance: unique
Route Distinguisher: 111:255
VRF: 111-VRF-celebra
Label Allocation Policy: per-vrf
Import Route Targets: 255:111
Export Route Targets: 111:255
Import Filter: 111-RFR-celebra
Export Select:
Export Filter: 111-RFR-celebra
Redistribute: connected static rip ospf bgp vpn dhcp fantasy modem bgp-mpls-vpn
enabled