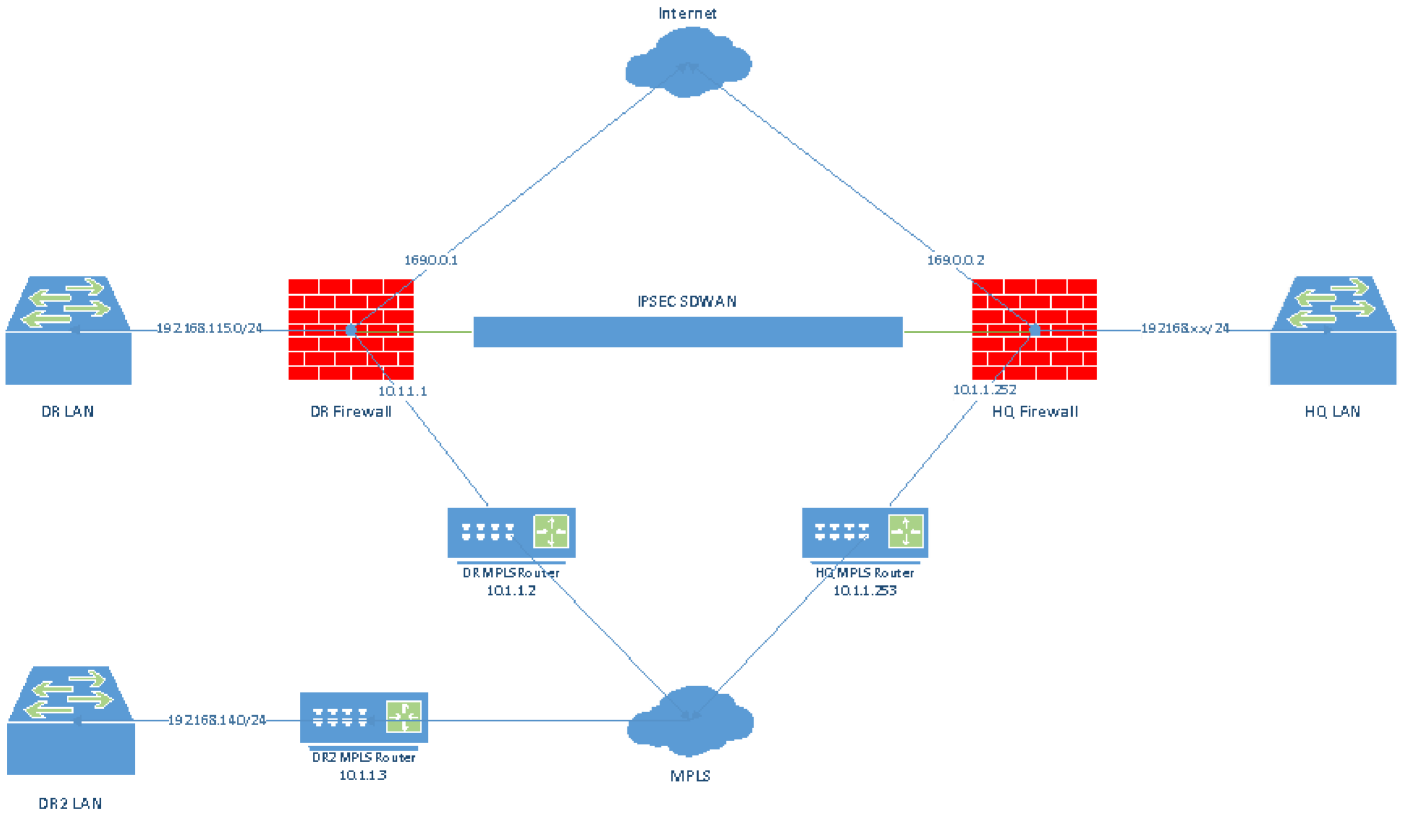
# MPLS + Internet IPSEC SDWAN 設定

## 設計概念：

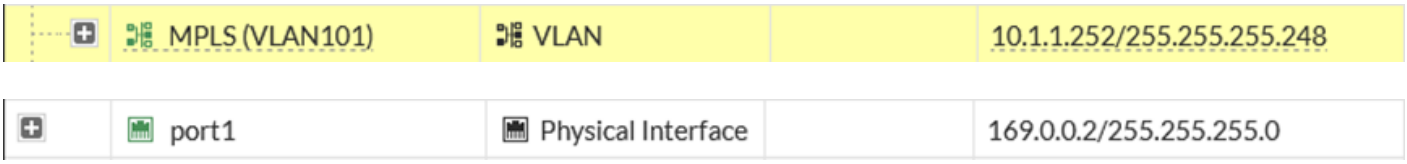
HQ透過MPLS連線到各分點，同時針對某些較重要的分點透過MPLS+Internet 建立雙線備援，以防網路連線中斷。

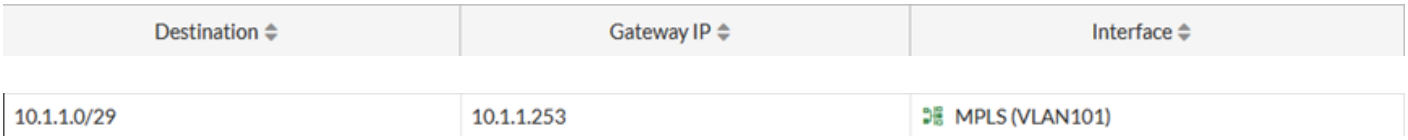
## ??????

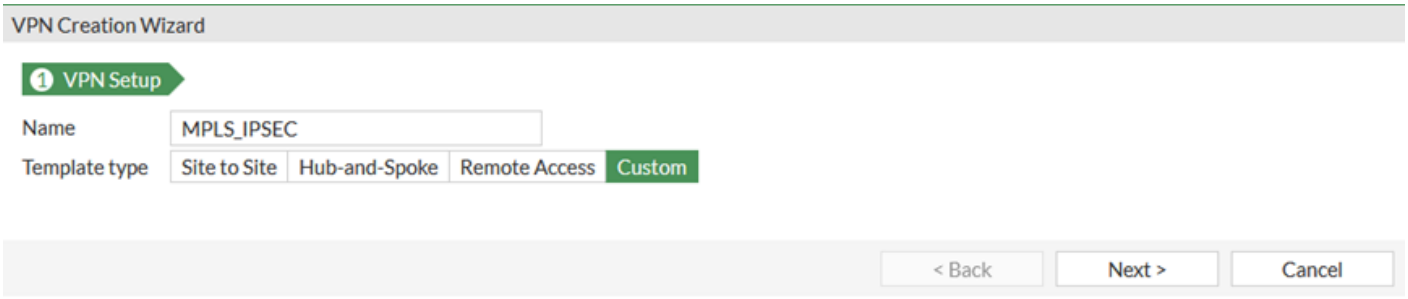



## ?????? MPLS?Internet Interface????

HQ Interface設定:







HQ 路由:

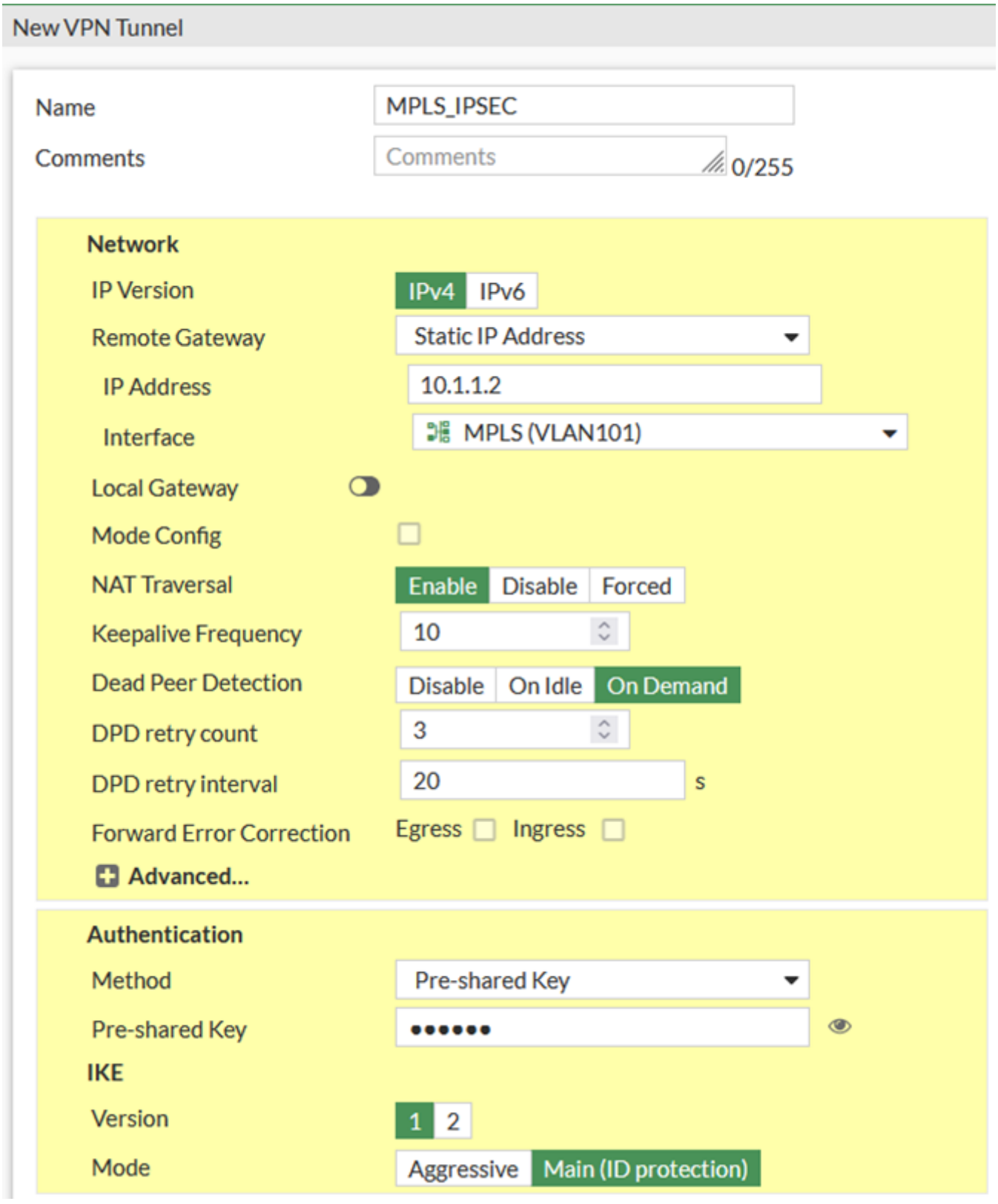
| Destination | Gateway IP | Interface |
|---|---|---|
| 10.1.1.0/29 | 10.1.1.253 | MPLS (VLAN101) |

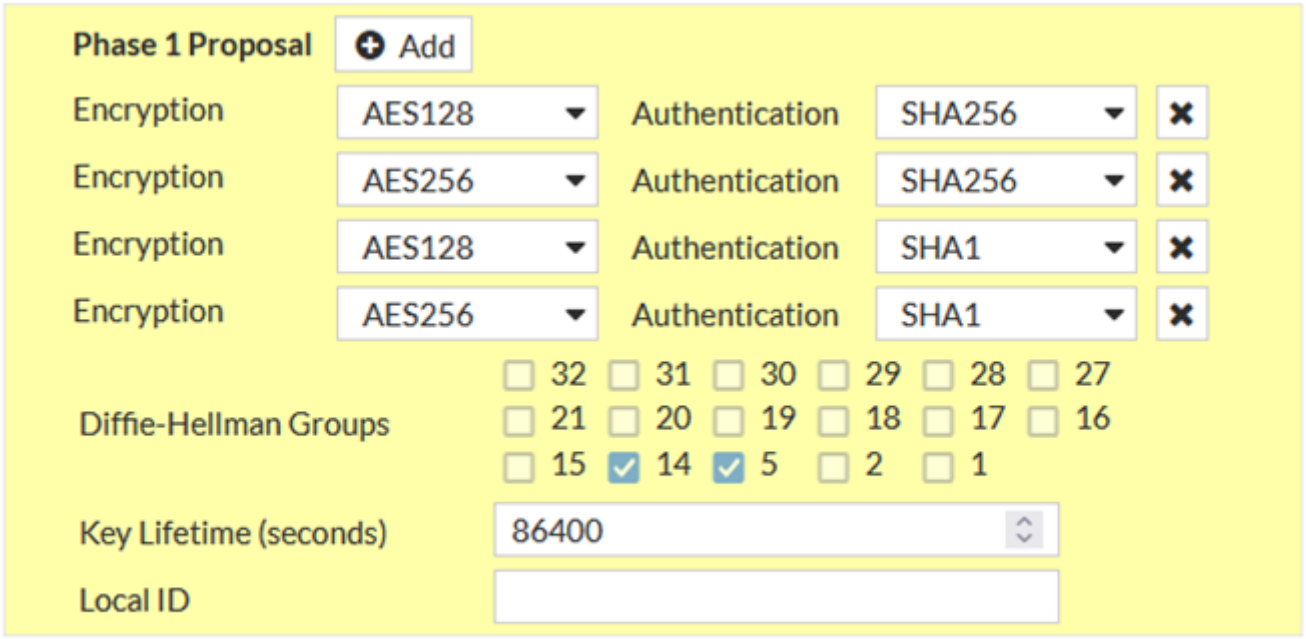
Internet Interface與路由請比照MPLS設定, DR端亦然

至於到其他分點的路由就照常設定MPLS的Static Route即可

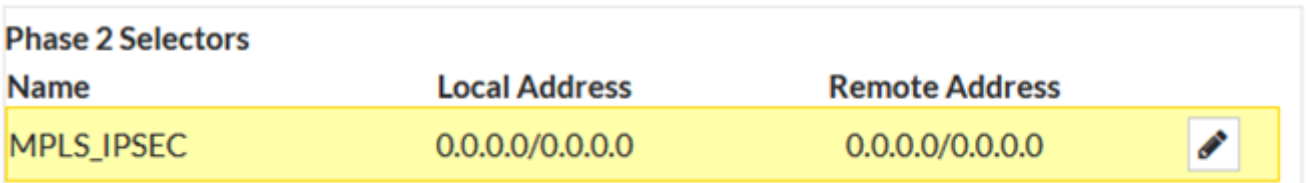
# ????MPLS?Internet?DR?IPSEC VPN?????????

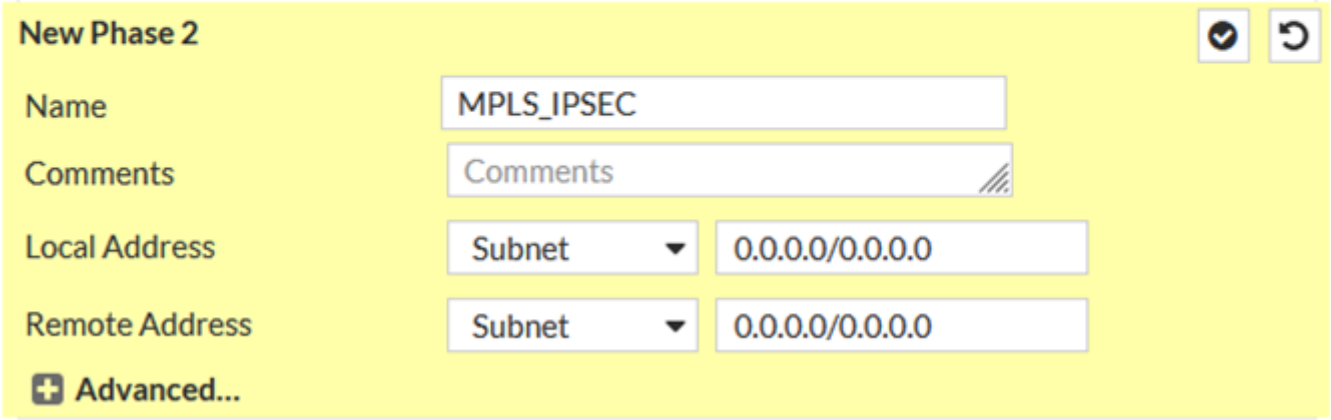
以下僅用MPLS IPSEC示範, Internet IPSEC請自行比照設定


New VPN Tunnel
Name
MPLS_IPSEC
Comments
Comments
0/255
Network
IP Version
IPv4
IPv6
Remote Gateway
Static IP Address
IP Address
10.1.1.2
Interface
MPLS (VLAN101)
Local Gateway
Mode Config
NAT Traversal
Enable
Disable
Forced
Keepalive Frequency
10
Dead Peer Detection
Disable
On Idle
On Demand
DPD retry count
3
DPD retry interval
20
s
Forward Error Correction
Egress
Ingress
Advanced...
Authentication
Method
Pre-shared Key
Pre-shared Key
IKE
Version
1
2
Mode
Aggressive
Main (ID protection)

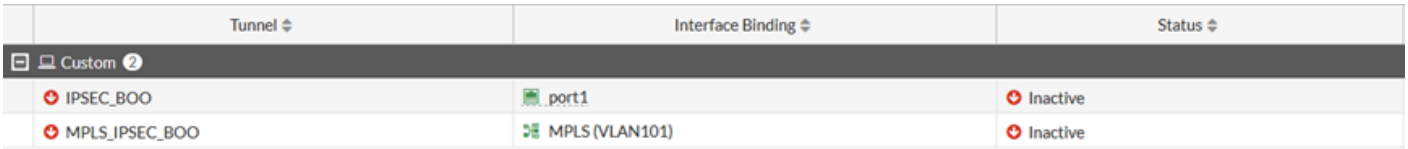




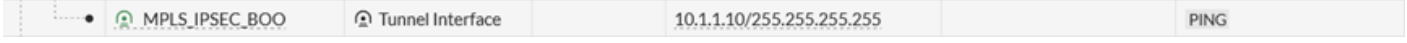


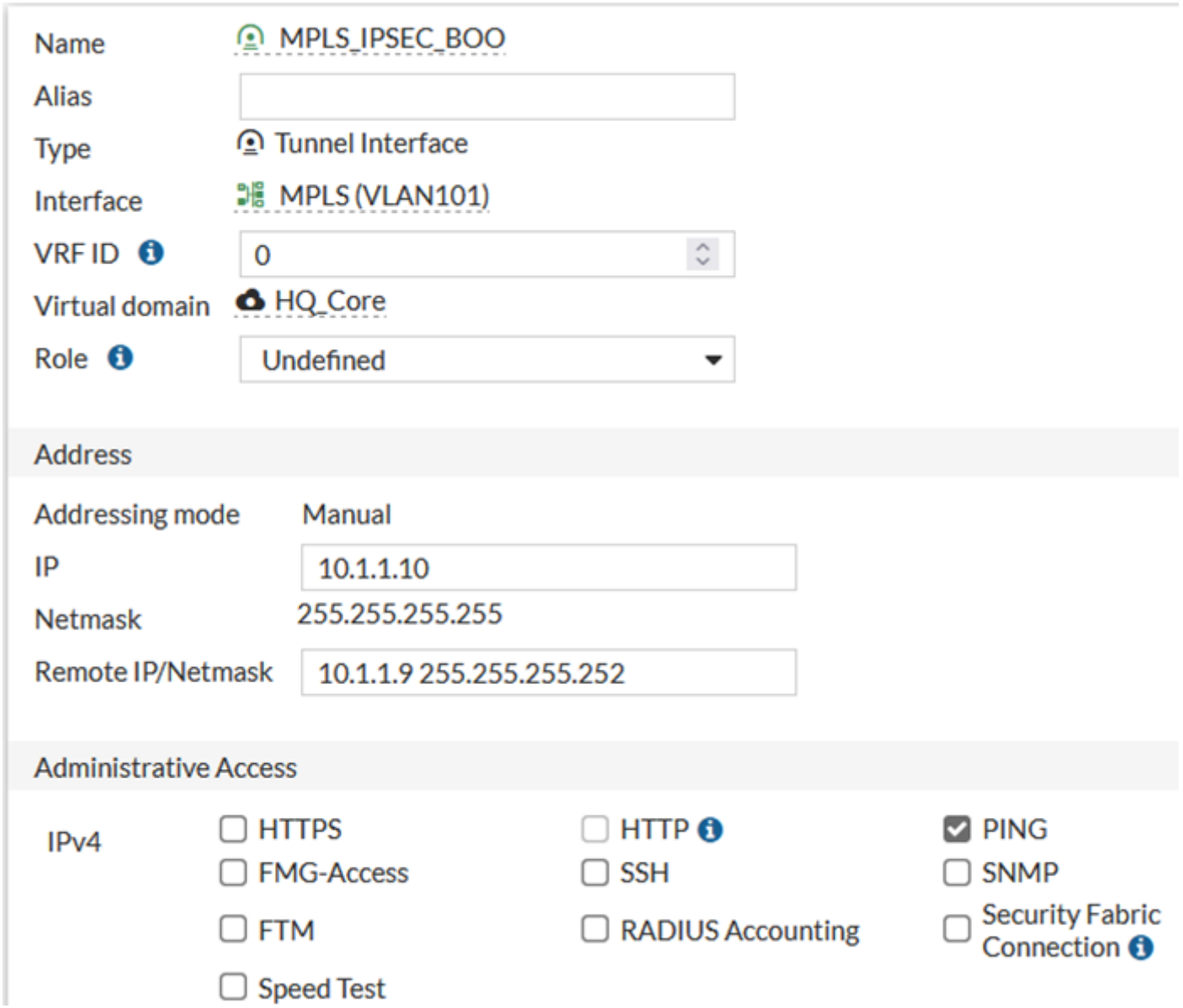




□□IPSEC□□□□□□□□




## ???Interface?VPN????IP??????????






FortiOS 7.0?????????CLI??

```
FortiGate-1800F (MPLS_IPSEC_BOO) # show
config system interface
    edit "MPLS_IPSEC_BOO"
        set vdom "HQ_Core"
        set ip 10.1.1.10 255.255.255.255
        set allowaccess ping
        set type tunnel
        set remote-ip 10.1.1.9 255.255.255.252
        set snmp-index 81
        set interface "VLAN101"
    next
end
```

```
FortiGate-1800F (IPSEC_BOO) # show
config system interface
    edit "IPSEC_BOO"
        set vdom "HQ_Core"
        set ip 10.1.1.14 255.255.255.255
        set allowaccess ping
        set type tunnel
        set remote-ip 10.1.1.13 255.255.255.252
        set snmp-index 82
        set interface "port1"
    next
end
```

注意 ❗處設定IPSEC VPN Interface的 IP是用來作路由使用，上圖為HQ端設定，DR端請自行比照設定

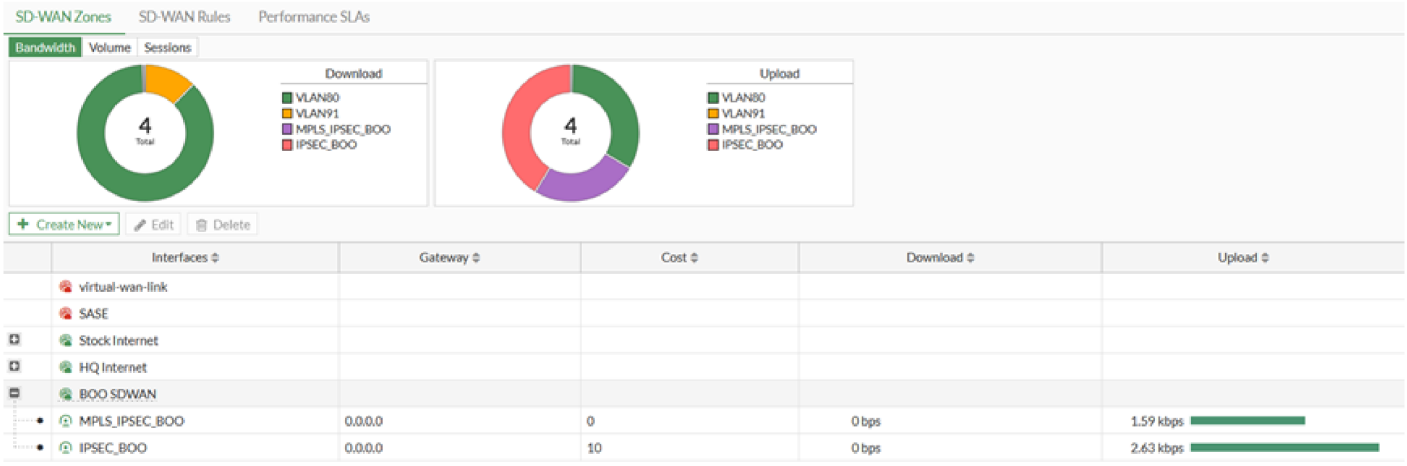
以此範例為例

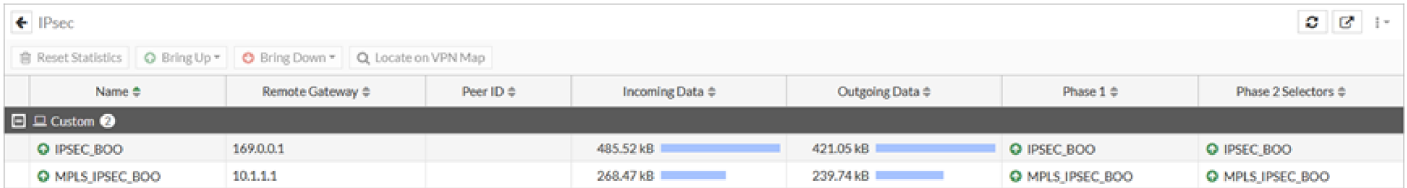
HQ Internet IPSEC VPN Interface 為 10.1.1.14，DR Internet IPSEC VPN Interface 為 10.1.1.13

HQ MPLS IPSEC VPN Interface 為 10.1.1.10，DR MPLS IPSEC VPN Interface 為 10.1.1.9

## ????SDWAN Zone????IPSEC VPN Interface???Member

??HQ?DR??????????????????IPSECVPN Turnnel???????Ping???IPSEC VPN Interface IP????????

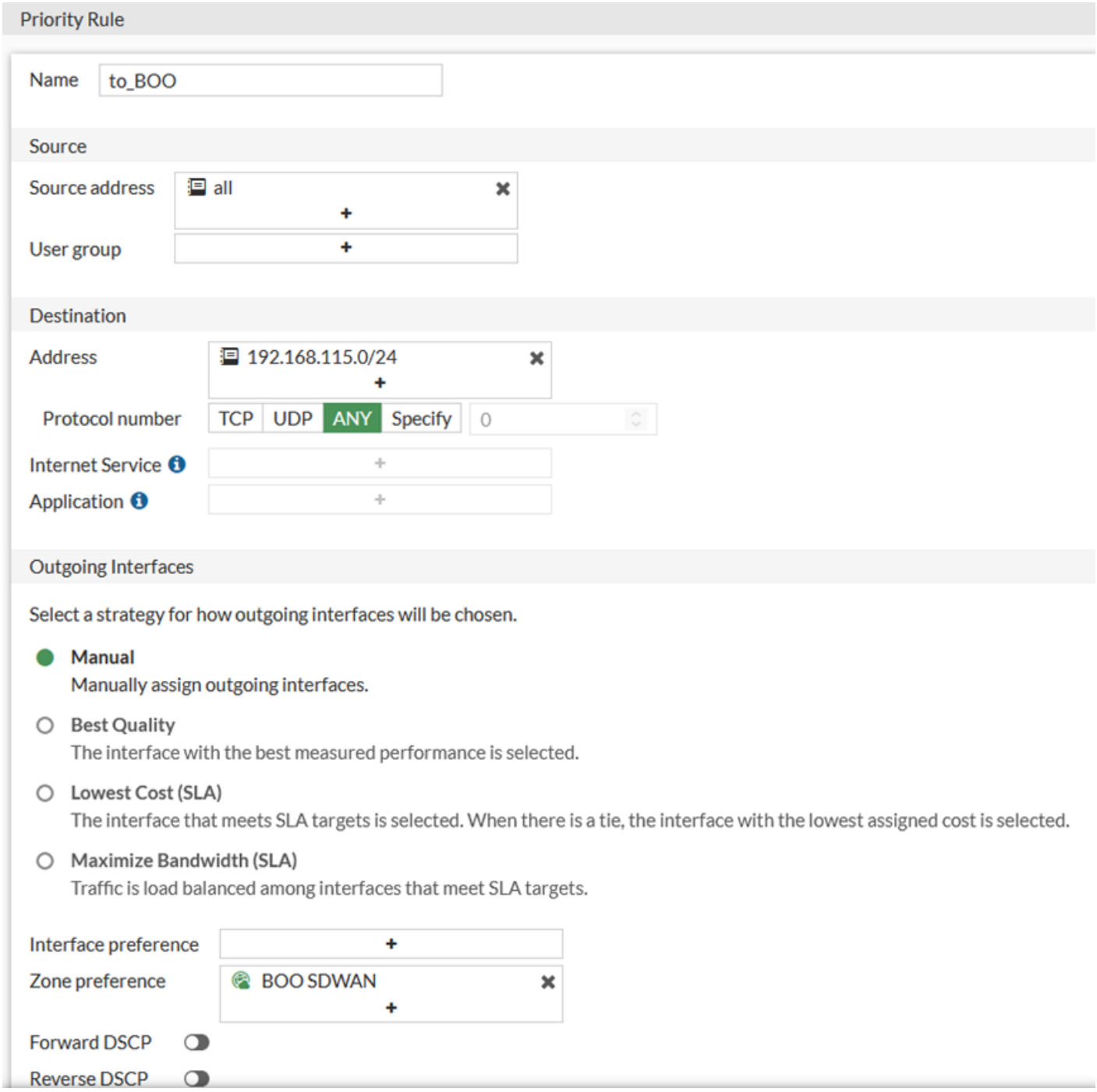


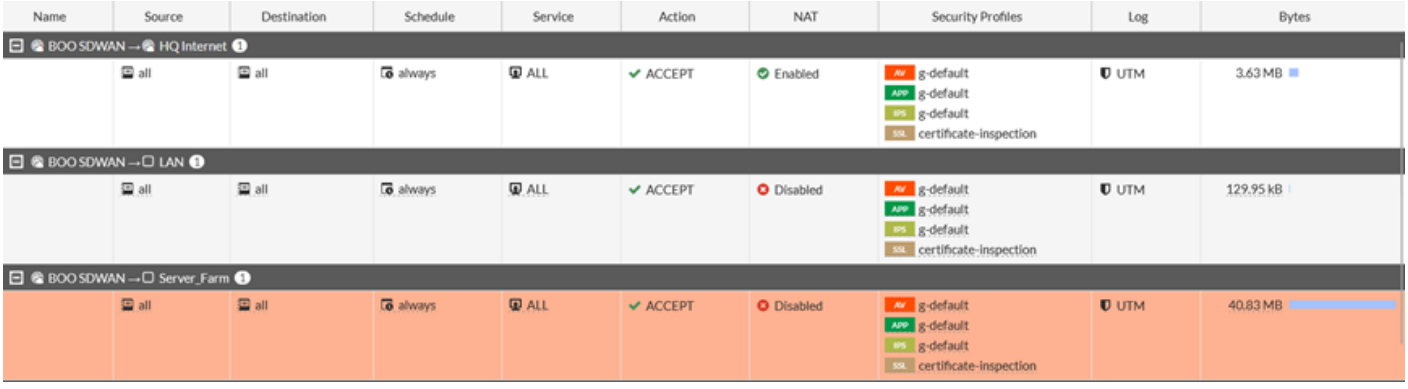
```
FortiGate-1800F (HQ_Core) # execute ping 10.1.1.1
PING 10.1.1.1 (10.1.1.1): 56 data bytes
64 bytes from 10.1.1.1: icmp_seq=0 ttl=254 time=0.5 ms
64 bytes from 10.1.1.1: icmp_seq=1 ttl=254 time=0.3 ms
^C
--- 10.1.1.1 ping statistics ---
2 packets transmitted, 2 packets received, 0% packet loss
round-trip min/avg/max = 0.3/0.4/0.5 ms

FortiGate-1800F (HQ_Core) # execute ping 169.0.0.1
PING 169.0.0.1 (169.0.0.1): 56 data bytes
64 bytes from 169.0.0.1: icmp_seq=0 ttl=255 time=0.1 ms
64 bytes from 169.0.0.1: icmp_seq=1 ttl=255 time=0.1 ms
^C
--- 169.0.0.1 ping statistics ---
2 packets transmitted, 2 packets received, 0% packet loss
round-trip min/avg/max = 0.1/0.1/0.1 ms

FortiGate-1800F (HQ_Core) #
```

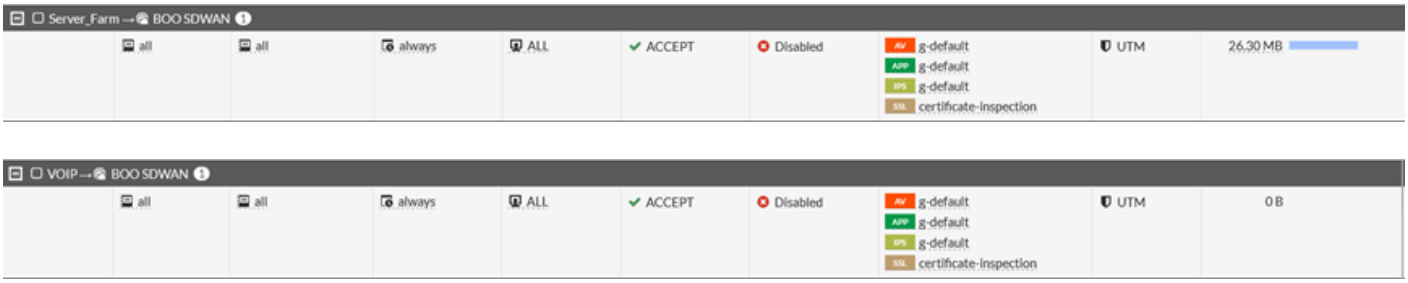
## ????SDWAN Rule

???HQ?SDWAN Rule?DR????????




# ????Firewall Policy?Static Route






| Destination | Gateway IP | Interface | Status |
|---|---|---|---|
| 192.168.115.0/24 | | BOO SDWAN | Enabled |

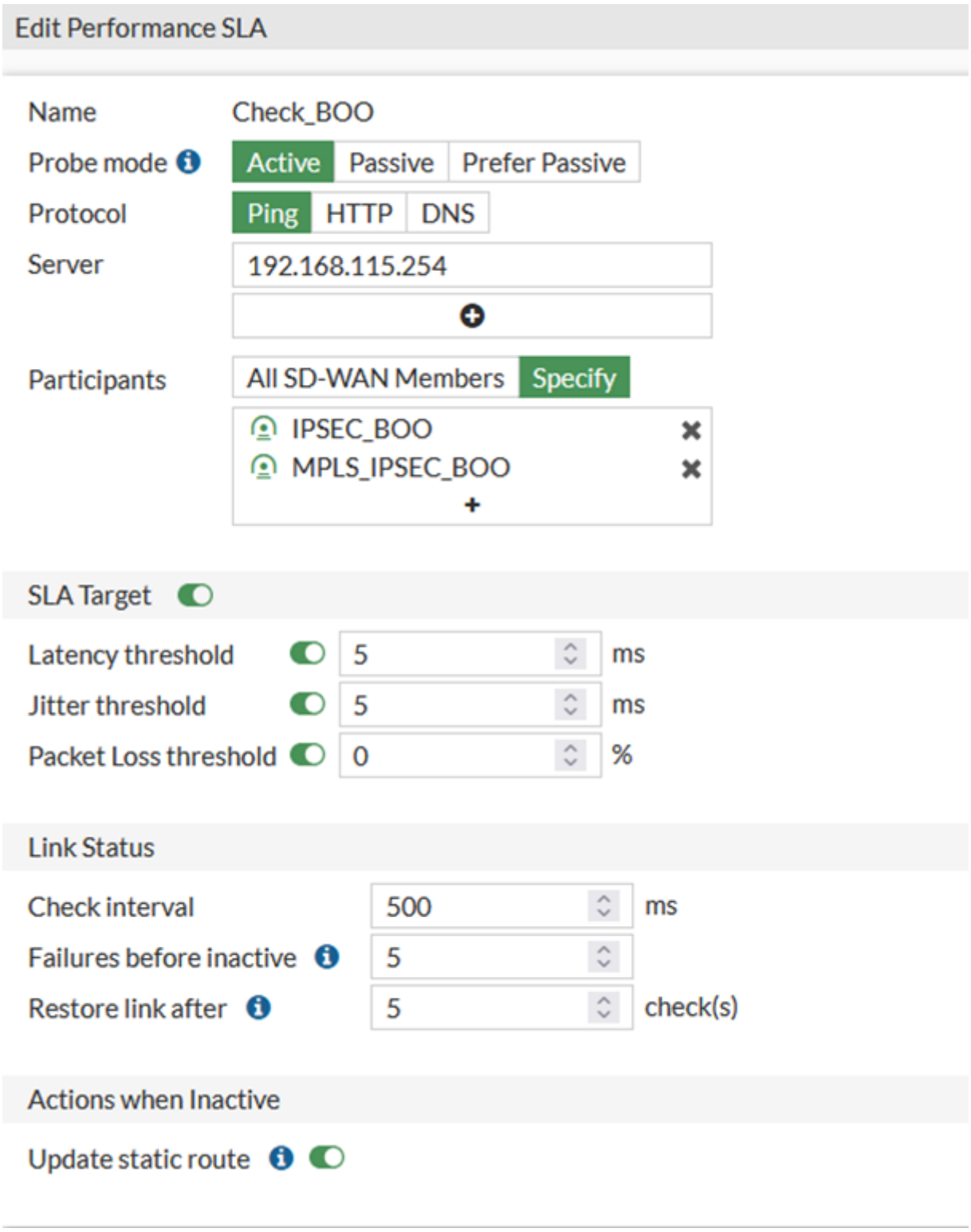
?????Ping DR LAN Interface????????

```
FortiGate-1800F (HQ_Core) # execute ping 192.168.115.254
PING 192.168.115.254 (192.168.115.254): 56 data bytes
64 bytes from 192.168.115.254: icmp_seq=0 ttl=255 time=0.7 ms
64 bytes from 192.168.115.254: icmp_seq=1 ttl=255 time=0.6 ms
^C
--- 192.168.115.254 ping statistics ---
2 packets transmitted, 2 packets received, 0% packet loss
round-trip min/avg/max = 0.6/0.6/0.7 ms

FortiGate-1800F (HQ_Core) #
```

□□ !!□□HQ□DR□□□□□□□□□□□

## ????SDWAN?????????????LAN Interface???

???????????LAN Interface?Health Check???Check?????????????????????????

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