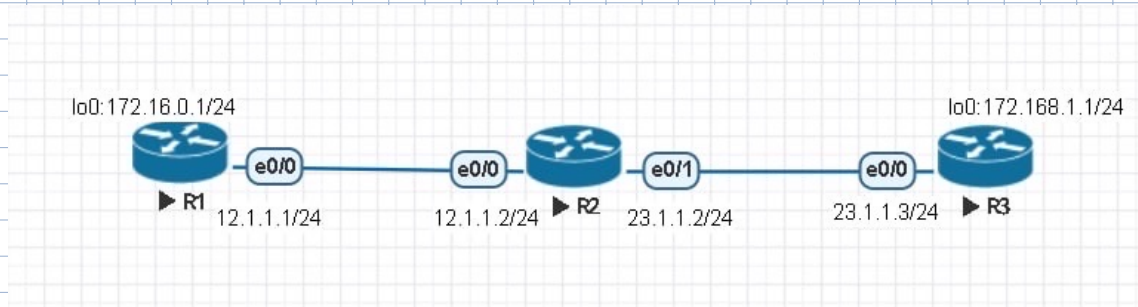


動態路由 RIP

- V1 有類路由協議 (classful) 不支持不連續的子網 用的是廣播
- V2 無類路由協議 (classless) 支持不連續的子網 超網化、子網跨切割 用的是組播



```
R1# int e0/0
# ip addr 12.1.1.1 255.255.255.0
# no shut
# do show ip int brief
```

```
R2# int e0/0
# ip addr 12.1.1.2 255.255.255.0
# no shut

# int e0/1
# ip addr 23.1.1.2 255.255.255.0
# no shut

# do show ip int brief
```

```
R3# int e0/0
# ip addr 23.1.1.3 255.255.255.0
# no shut
# do show ip int brief

# do ping 23.1.1.2
✓
```

```
R1# do ping 12.1.1.2
✓
```

看 ip 路由表

```
R1# do show ip route
```

設定路由協定

```
R1# router rip 路由協定跑起來
# version 2 設 v2 版本, 預設是 v1
# network 12.1.1.0 12.1.1.0 0.0.0.0 進去 rip
```

```
# do show running-config
```

```
router rip  
version 2  
network 12.0.0.0
```

R2

```
# router rip  
# version 2  
# network 12.1.1.0  
# network 23.1.1.0
```

R3

```
# router rip  
# version 2  
# network 23.1.1.0
```

R1, R2, R3

```
# do show ip route
```

```
# show ip protocols  
rip 通訊協定
```

wireshark p1 e0/0

244.0.0.9

群播位址

ip:udp port:520

v2

ip: 23.0.0.0

mask: 255.0.0.0

V1

廣播

沒有mask

V5

V2

群播

有mask

清除rip

```
R1 # no ip routing  
# ip routing
```

關閉
再開啟

再重新增加

```
# router rip  
# network 12.1.1.0
```

```
# do sh running-config
```

```
router rip  
network 12.0.0.0
```

```

R2 # no ip routing
    # ip routing

    # router rip
    # network 12.1.1.0
    # network 23.1.1.0

```

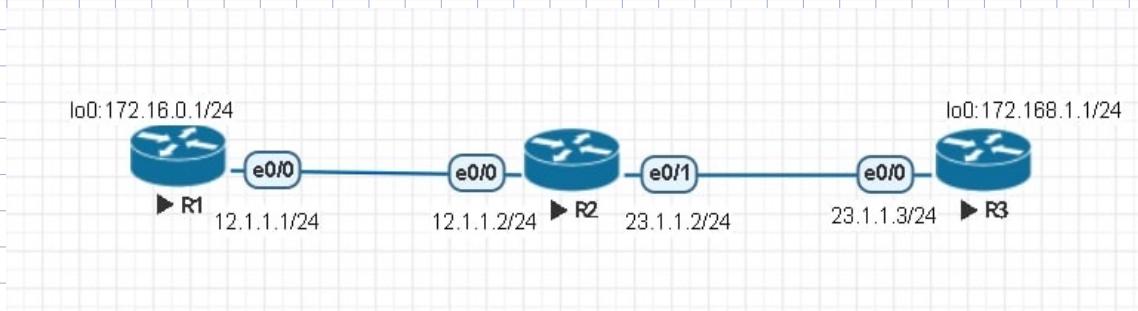
```

R3 # no ip routing
    # ip routing

    # router rip
    # network 23.1.1.0

```

wireshark R1 e0/0 255.255.255.255 廣播位址
沒有mask



```

R2 如果沒有 no auto-summary
    # do show ip route
    R 172.16.0.0/16 [120/0] via 12.1.1.1
      [120/0] via 23.1.1.3

```

自動匯總: 会把連續網路合併在一起

好處: net 連續在同一端, 合併, 可以減少路由條目

缺點: net 連續在不同一端, 合併後會漏掉

```

R2 加上 no auto-summary 之後
    # do show ip route
    R 172.16.0.0 [120/0] via 12.1.1.1
      172.16.1.0 [120/0] via 23.1.1.3

```

R1 設定 loopback interface

```
# int lo 0
# ip addr 172.16.0.1 255.255.255.0
# exit
```

清除 rip 資料
do clear ip route *

清除 rip

```
# no ip routing
# ip routing
```

設定路由

```
# router rip
# version 2
# network 12.1.1.0
# network 172.16.0.0
# no auto-summary 不要匯總
```

R2 # no ip routing
ip routing

```
# router rip
# version 2
# network 12.1.1.0
# network 23.1.1.0
# no auto-summary
```

R3 # int lo 0
ip addr 172.16.1.1 255.255.255.0
do show ip int brief
exit

```
# no ip routing
# ip routing
```

```
# router rip
# version 2
# network 23.1.1.0
# network 172.16.1.0
# no auto-summary
```