



MikroLine

MikroTik Certified Training Partner

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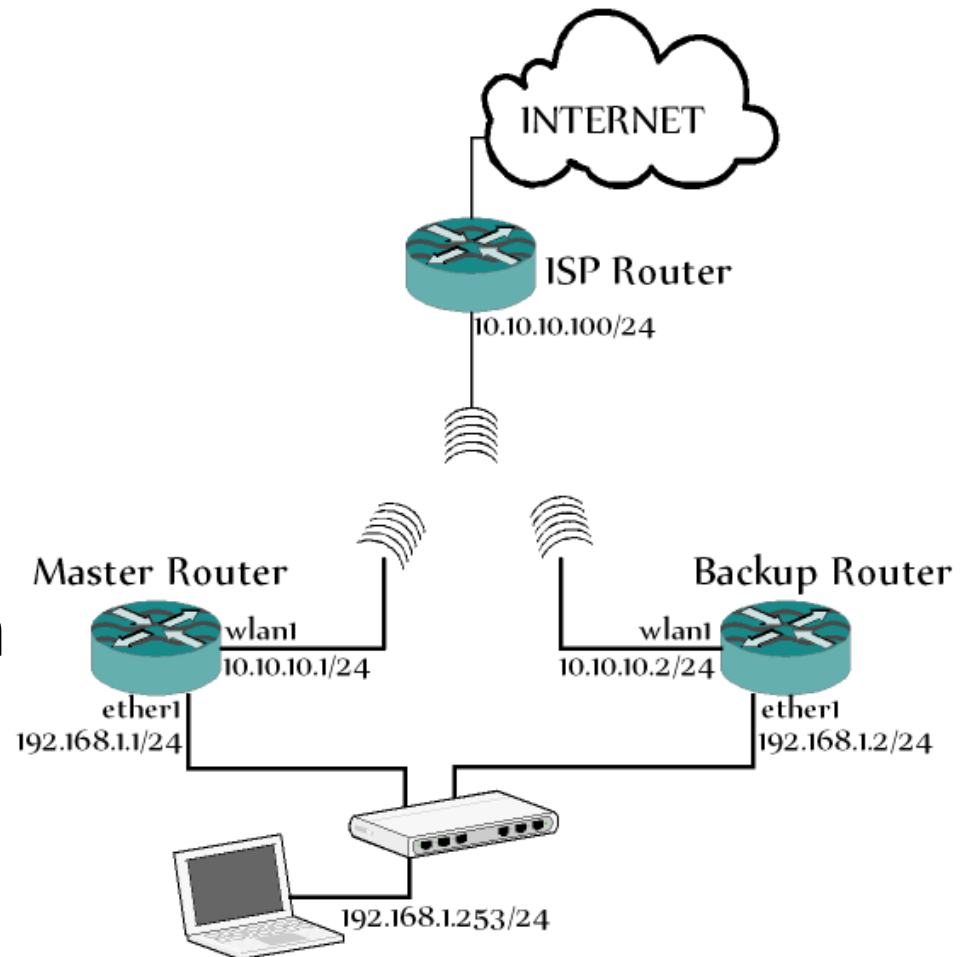
MTCNA, MTCWE, MTCUME, MTCTCE, MTCRE
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VRRP

- Virtual Router Redundancy Protocol (VRRP) adalah sebuah protokol untuk menentukan proses redundancy router dalam suatu network dengan melakukan pemilihan master router dan backup router, berdasarkan priority

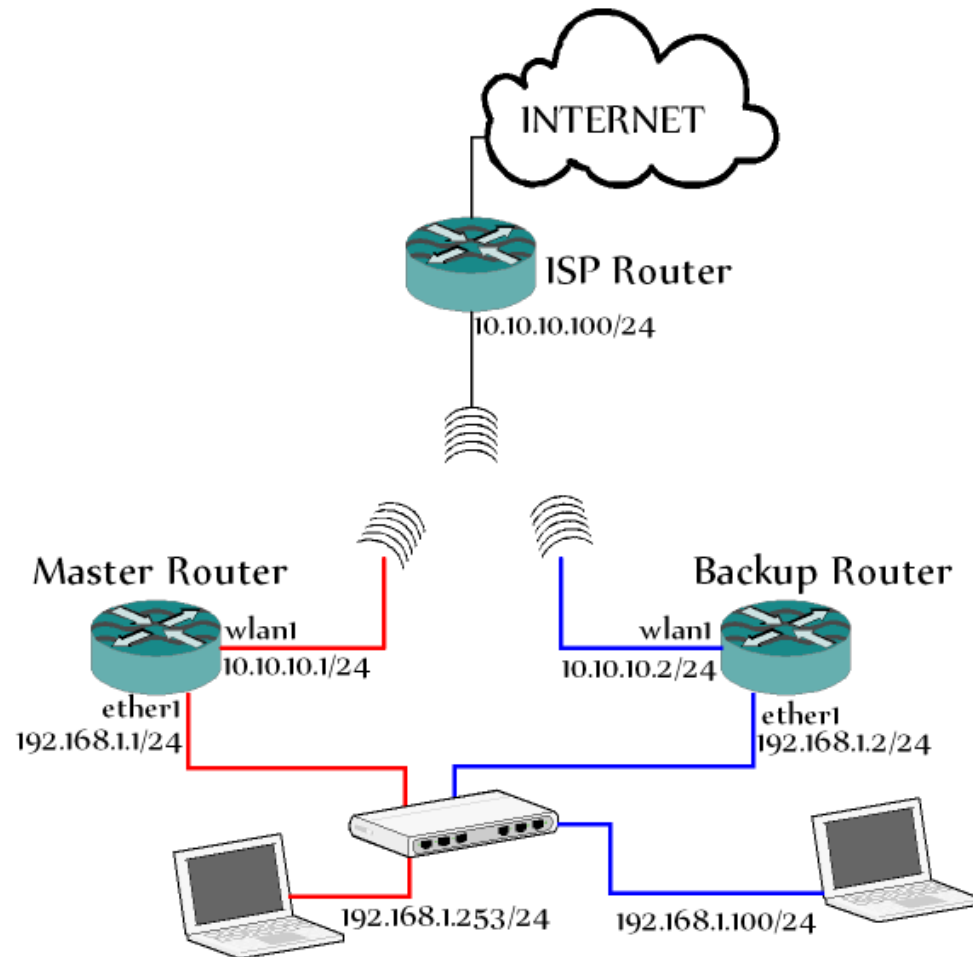
Virtual Router Redundancy Protocol

- VRRP menentukan satu router sebagai master router dengan router yang lainnya sebagai backup router
- Max. 255 VR, dalam satu interface fisik router



Virtual Router Redundancy Protocol

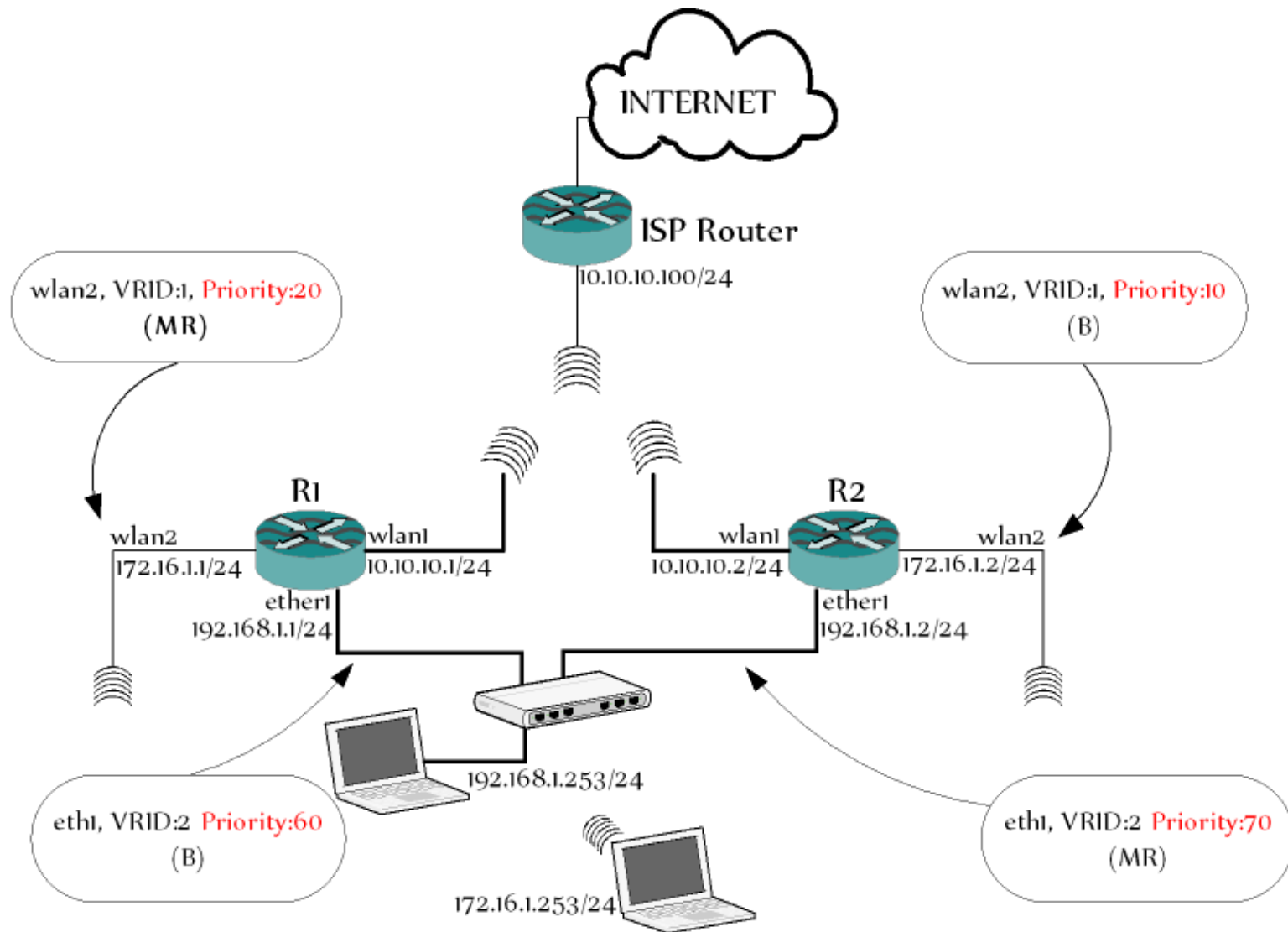
- VRRP dapat digunakan sebagai Load sharing, membagi trafik ke beberapa router



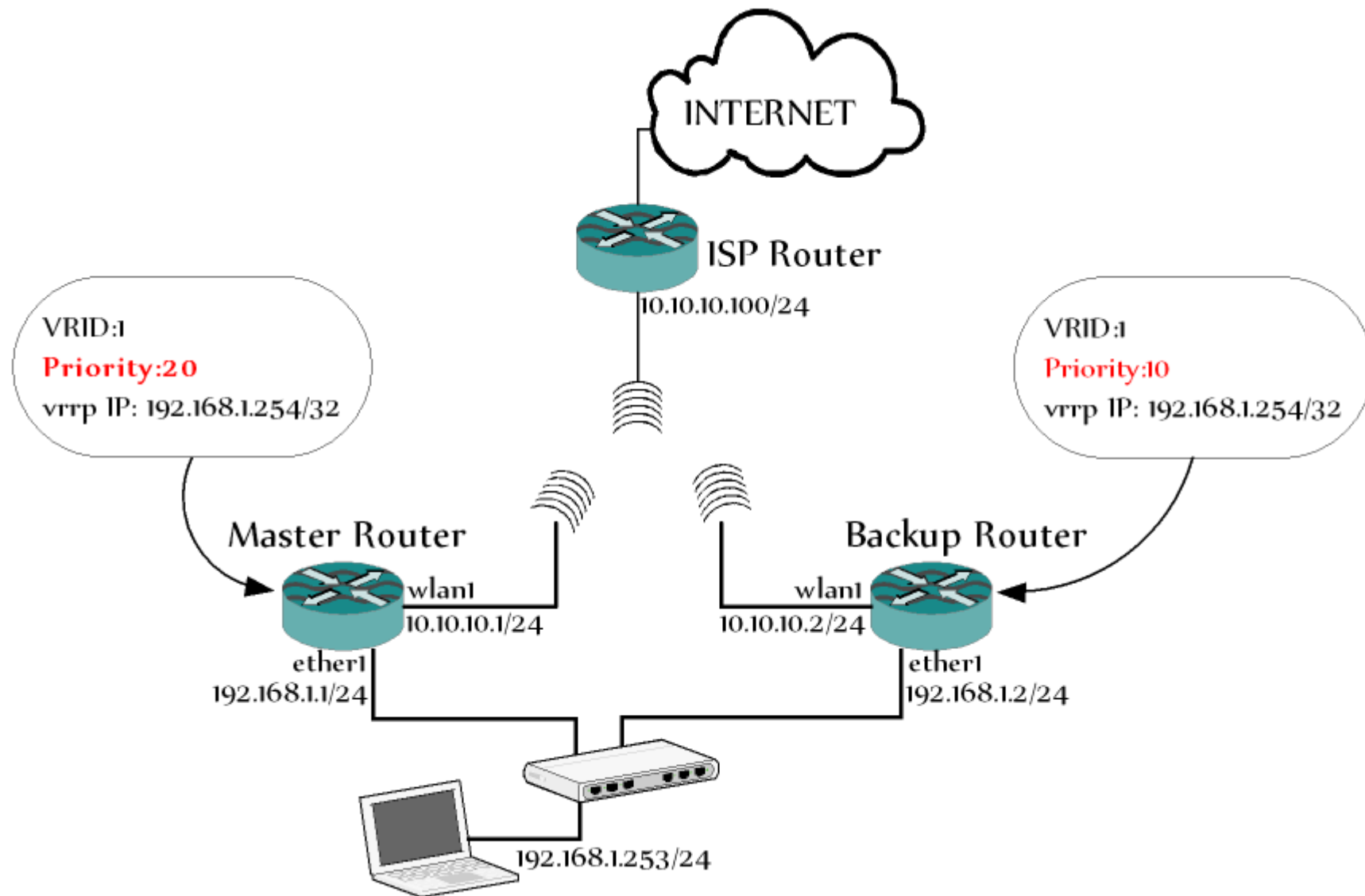
Virtual Router Redundancy Protocol

- Konfigurasi multi VRRP memungkinkan sebuah router merupakan master router untuk suatu interface (misalnya:wlan2) namun berfungsi sebagai backup router untuk interface yang lainnya (misalnya:ether1)

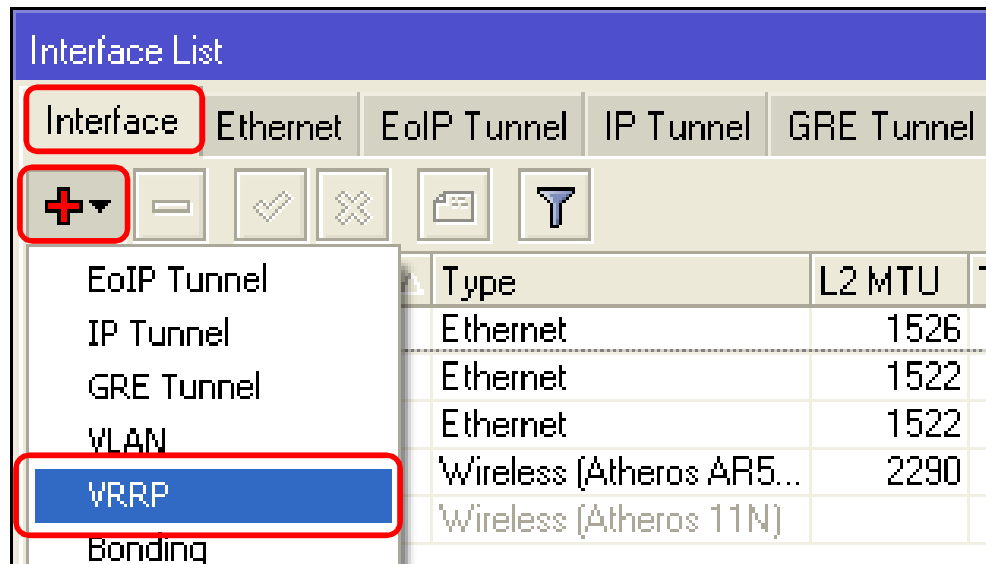
Virtual Router Redundancy Protocol



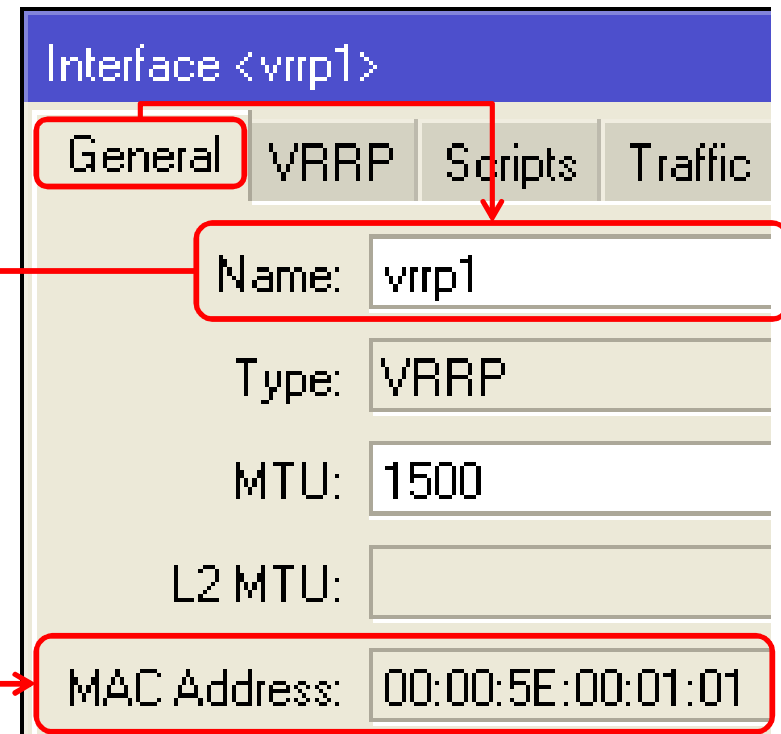
KONFIGURASI VRRP I



VRRP INTERFACE [R1&R2]



Interface VRRP melakukan komunikasi ke semua VRRP router yang memiliki VR ID yang sama, dan mendukung redundancy melalui proses prioritas pemilihan



Interface VRRP dengan VRID yang sama memiliki MAC Address yang sama

VRID & PRIORITY – R1

The screenshot displays a network configuration window. On the left, the 'Interface List' panel shows a table of interfaces. The 'vrp1' interface is highlighted in red. On the right, the 'Interface <vrp1>' configuration panel is shown with tabs for 'General', 'VRRP', 'Scripts', and 'Traffic'. The 'VRRP' tab is active, and a red box highlights the 'Interface', 'VRID', and 'Priority' fields. The 'Interface' is set to 'ether1', 'VRID' is '1', and 'Priority' is '20'. Other settings include 'Interval' at '1.00', 'Preemption Mode' checked, 'Authentication' set to 'none', 'Password' empty, 'Version' at '3', and 'V3 Protocol' at 'IPv4'.

	Name
R	ether1
I	vrp1
	ether2
	ether3
R	wlan1
X	wlan2

Interface <vrp1>

General VRRP Scripts Traffic

Interface: ether1

VRID: 1

Priority: 20

Interval: 1.00 s

☒ Preemption Mode

Authentication

☒ none ☐ simple ☐ ah

Password:

Version: 3

V3 Protocol: IPv4

Priority tertinggi
dengan VRID yang
sama, akan dijadikan
master router

VRID & PRIORITY – R2

Interface List

Interface	Ethernet
R	ether1
I	vrrp1
	ether2
	ether3
R	wlan1
X	wlan2

Interface <vrrp1>

General VRRP Scripts Traffic

Interface: ether1

VRID: 1

Priority: 10

Interval: 1.00 s

☒ Preemption Mode

– Authentication –

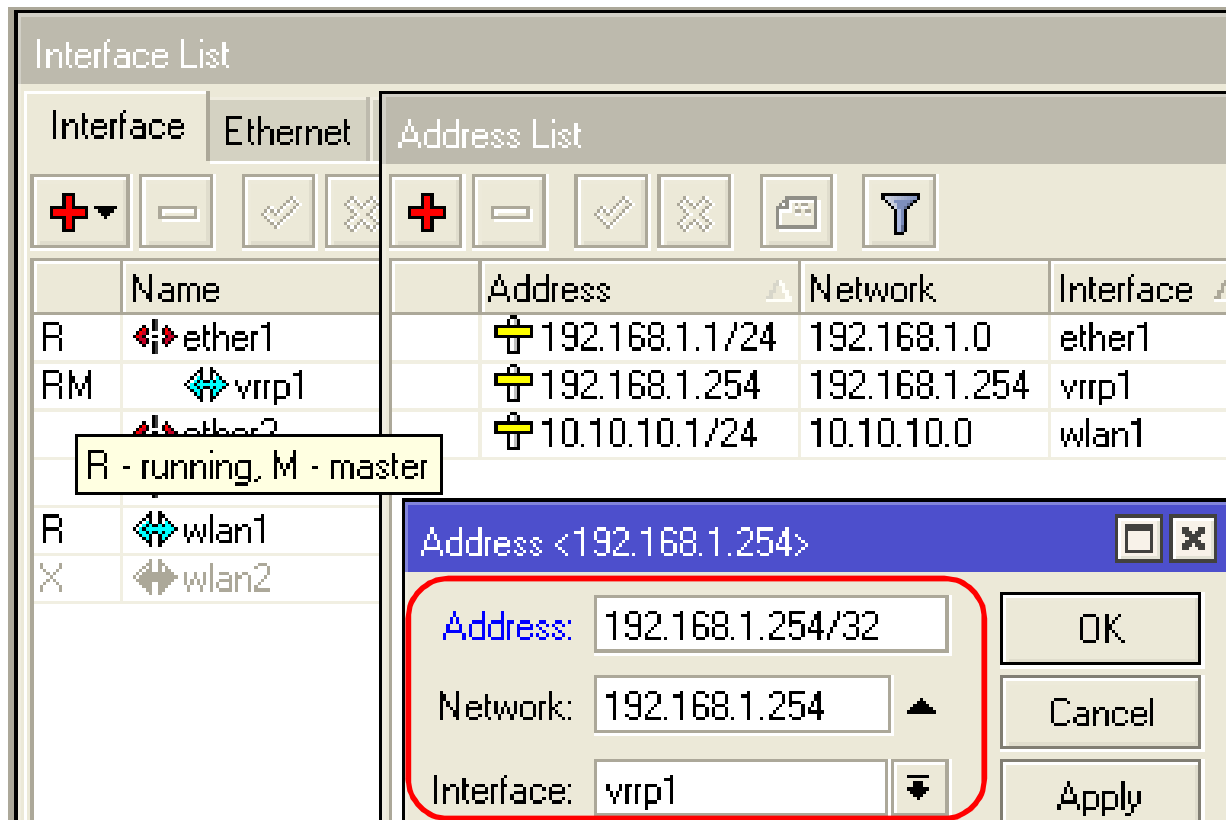
☒ none ☐ simple ☐ ah

Password:

Version: 3

V3 Protocol: IPv4

IP ADDRESS VRRP-R1



Menggunakan IP Virtual yang sama di semua router yang memiliki VRIDnya sama

IP ADDRESS VRRP-R2

Interface List

Interface	Ethernet
R	ether1
B	vrrp1
B - backup	2
	3
R	wlan1
X	wlan2

Address List

Address	Network	Interface
10.10.10.2/24	10.10.10.0	wlan1
192.168.1.2/24	192.168.1.0	ether1
192.168.1.254	192.168.1.254	vrrp1

Address <192.168.1.254>

Address: 192.168.1.254/32

Network: 192.168.1.254

Interface: vrrp1

OK

Cancel

Apply

IP ADDRESS LAN

General

You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings.

☐ Obtain an IP address automatically

☒ Use the following IP address:

IP address: 192 . 168 . 1 . 253

Subnet mask: 255 . 255 . 255 . 0

Default gateway: 192 . 168 . 1 . 254

☐ Obtain DNS server address automatically

☒ Use the following DNS server addresses:

Preferred DNS server: 10 . 10 . 10 . 100

Alternate DNS server: . . .

VRRP

:52:8F:3A (R1) - WinBox v5.11

R1

Interface List

Interface Ethernet EoIP Tunnel I



	Name	Type
R	ether1	Ethernet
RM	vrrp1	VRRP
	ether2	Ethernet
	ether3	Ethernet
R	wlan1	Wireless (At
X	wlan2	Wireless (At

R - running, M - master

:5E:2B:53 (R2) - WinBox v5.11

R2

Interface List

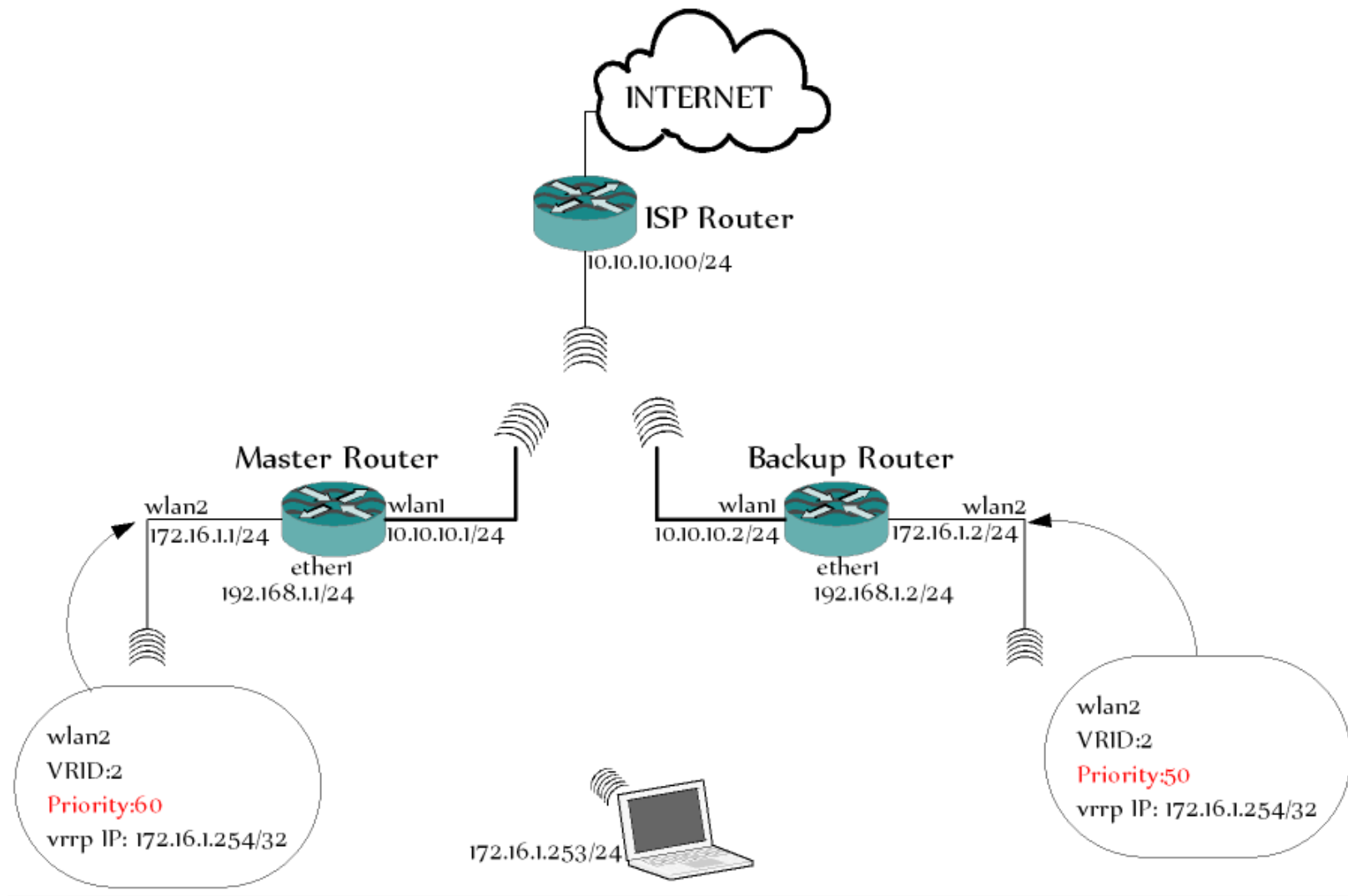
Interface Ethernet EoIP Tunnel I



	Name	Type
R	ether1	Ethernet
B	vrrp1	VRRP
	ether2	Ethernet
	ether3	Ethernet
R	wlan1	Wireless (At
X	wlan2	Wireless (At

B - backup

WIRELESS VRRP



BRIDGE R1&R2

Bridge

Bridge Ports Filters NAT Hosts

+ - ✓ ✕ [Icon] [Icon] Settings

	Name ▲	Type	L2 MTU	Tx	Rx
R	↕ bridge1	Bridge	2290	0 bps	0 bps

Interface <bridge1>

General STP Status Traffic

Name: bridge1

Type: Bridge

Bridge

Bridge Ports Filters NAT Hosts

+ - ✓ ✕ [Icon] [Icon]

	Interface ▲	Bridge	Priority (hex)	Path Cost
	↕ wlan2	bridge1	80	10

Bridge Port <wlan2>

General Status

Interface: wlan2

Bridge: bridge1

Interface <bridge1>

General STP Status Traffic

Protocol Mode: ☐ none ☐ stp ☒ rstp

Priority: 8000 hex

Wlan2 R1 & R2

Interface <wlan2>

General **Wireless** HT WDS Nstreme

Mode: ap bridge

Band: 2GHz-B/G

Channel Width: 20MHz

Frequency: 2412

SSID: VRRP

Interface <wlan2>

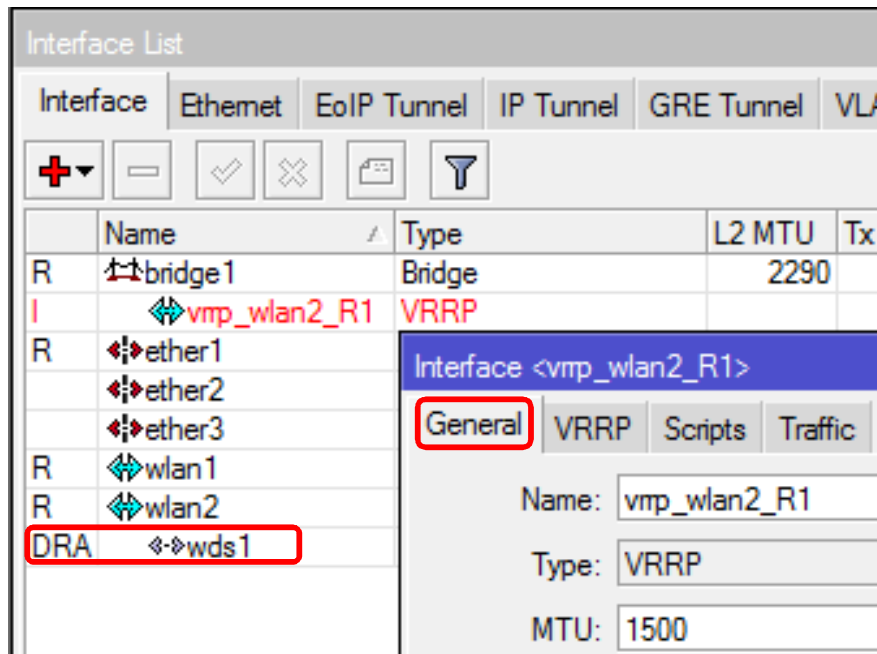
General Wireless HT **WDS** Nstreme

WDS Mode: dynamic

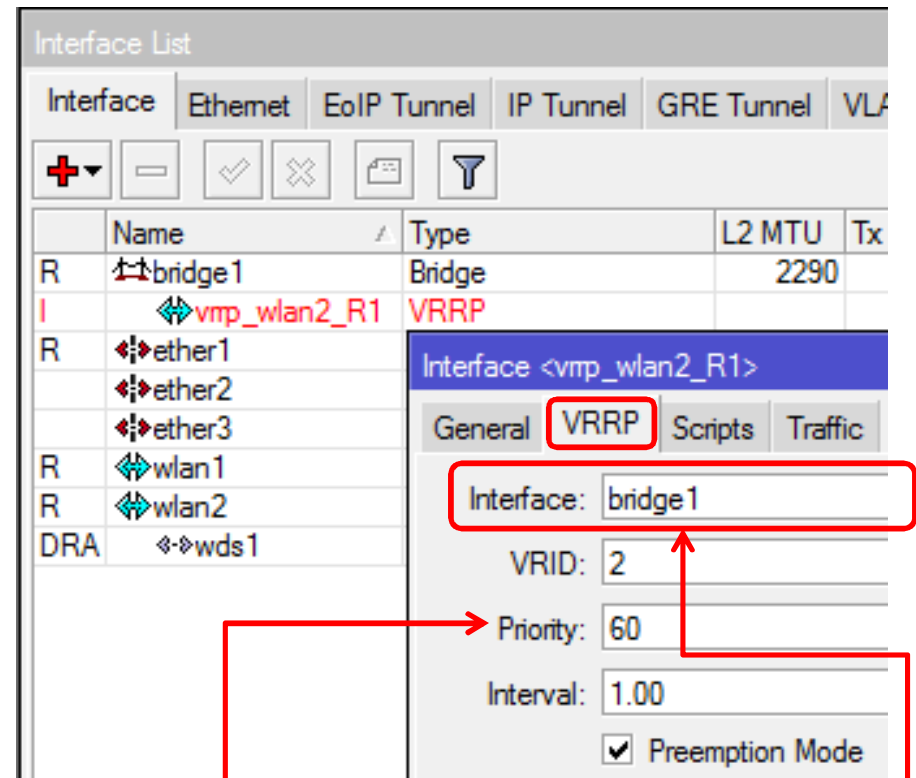
WDS Default Bridge: bridge1

☐ WDS Ignore SSID

VRRP Wlan2 R1

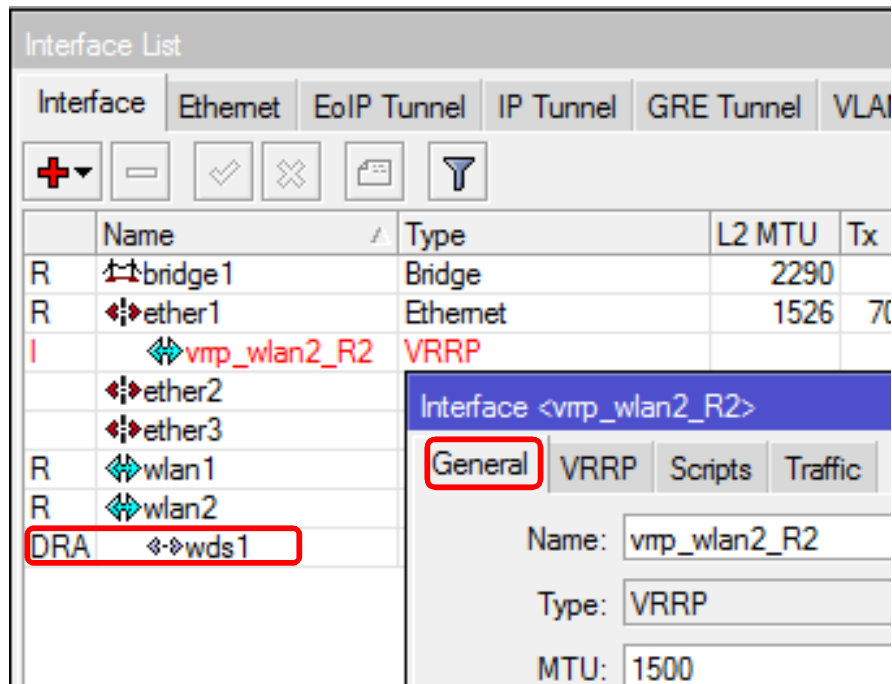


R1 sebagai master router
dengan priority 60

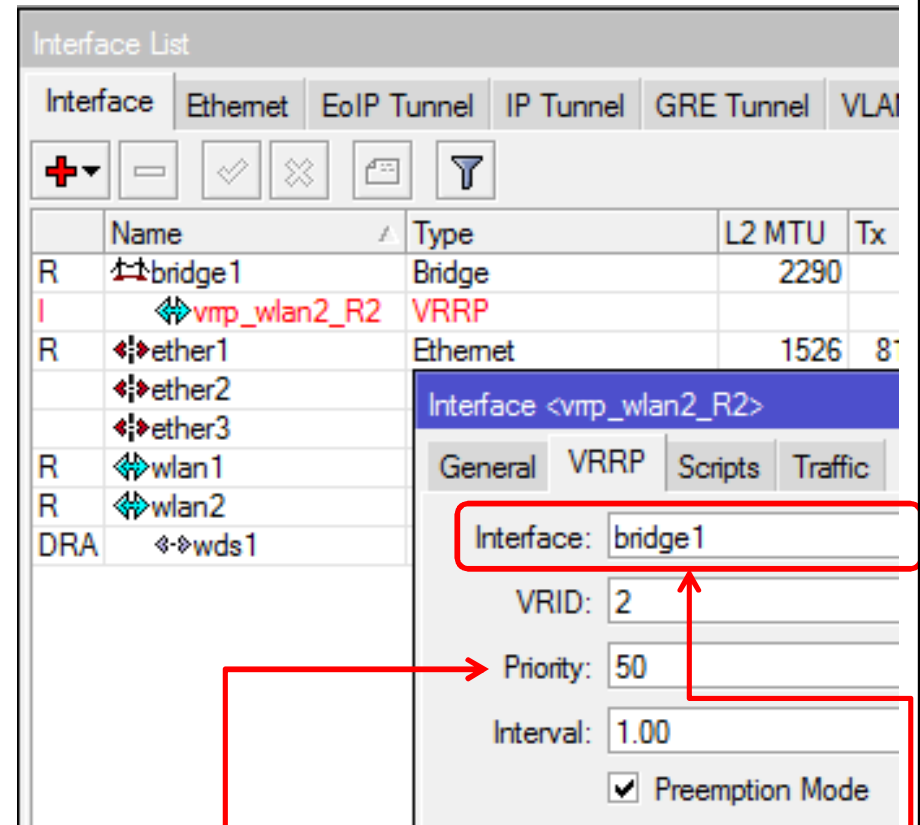


Interface VRRP diterapkan
di bridge

VRRP Wlan2 R2

















R1 sebagai backup dengan priority 50



Interface VRRP diterapkan di bridge



IP ADDRESSING (Wlan2)

Interface List

Interface	Ethernet	EoIP Tunnel	IP Tunnel	GRE Tunnel	VLAN
<div>     </div>					
Name	Type	L2 MTU	Tx		
R  bridge1	Bridge	2290			
I  vmp_wlan2_R1	VRRP				
R  ether1					
R  ether2					
R  ether3					
R  wlan1					
R  wlan2					
DRA  wds1					

R1

Address List

Address	Network	Interface
 10.10.10.1/24	10.10.10.0	wlan1
 172.16.1.1/24	172.16.1.0	wlan2















Address <172.16.1.1/24>

Address:

Network: ▲



Interface: ▼

Interface List

Interface	Ethernet	EoIP Tunnel	IP Tunnel	GRE Tunnel	VLAN
<div>     </div>					
Name	Type	L2 MTU	Tx		
R  bridge1	Bridge	2290			
I  vmp_wlan2_R2	VRRP				
R  ether1					
R  ether2					
R  ether3					
R  wlan1					
R  wlan2					
DRA  wds1					

R2

Address List

Address	Network
 10.10.10.2/24	10.10.10.0
 172.16.1.2/24	172.16.1.0

Address <172.16.1.2/24>

Address:

Network: ▲

Interface: ▼

IP ADDRESSING (VRRP)

Interface List

Interface	Ethernet	EoIP Tunnel	IP Tunnel	GRE Tunnel	VLAN	VRRP
R	bridge1					
RM	vmp_wlan2_R1					

R - running, M - master

Address List

Address	Network	Interface
10.10.10.1/24	10.10.10.0	wlan1
172.16.1.1/24	172.16.1.0	wlan2
172.16.1.254	172.16.1.254	vmp_wlan2_R1

Address <172.16.1.254>

Address: 172.16.1.254/32

Network: 172.16.1.254

Interface: vmp_wlan2_R1

R1

Interface List

Interface	Ethernet	EoIP Tunnel	IP Tunnel	GRE Tunnel	VLAN	VRRP
R	bridge1					
B	vmp_wlan2_R2					

B - backup

Address List

Address	Network	Interface
10.10.10.2/24	10.10.10.0	wlan1
172.16.1.2/24	172.16.1.0	wlan2
172.16.1.254	172.16.1.254	vmp_wlan2_R2

Address <172.16.1.254>

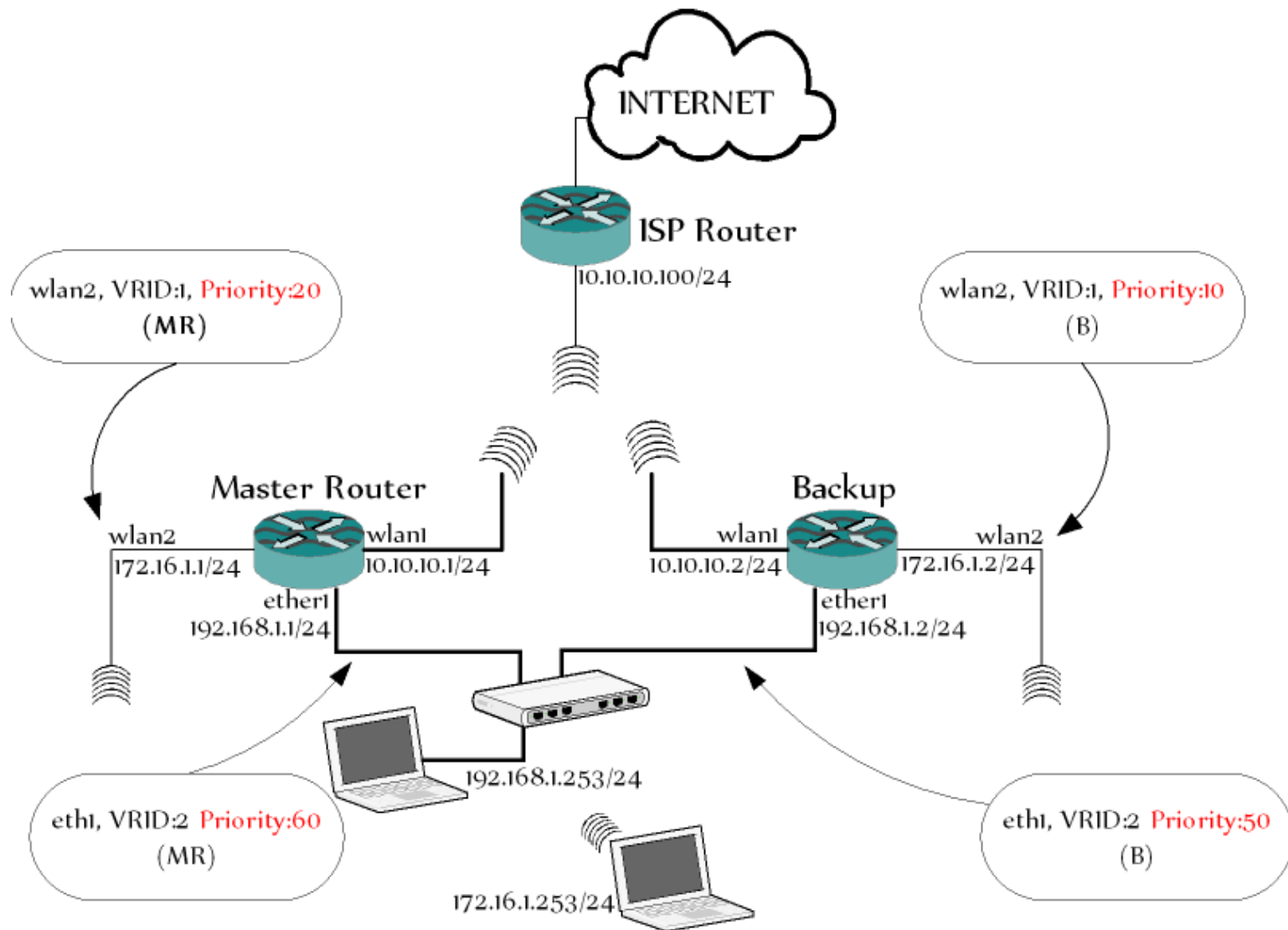
Address: 172.16.1.254/32

Network: 172.16.1.254

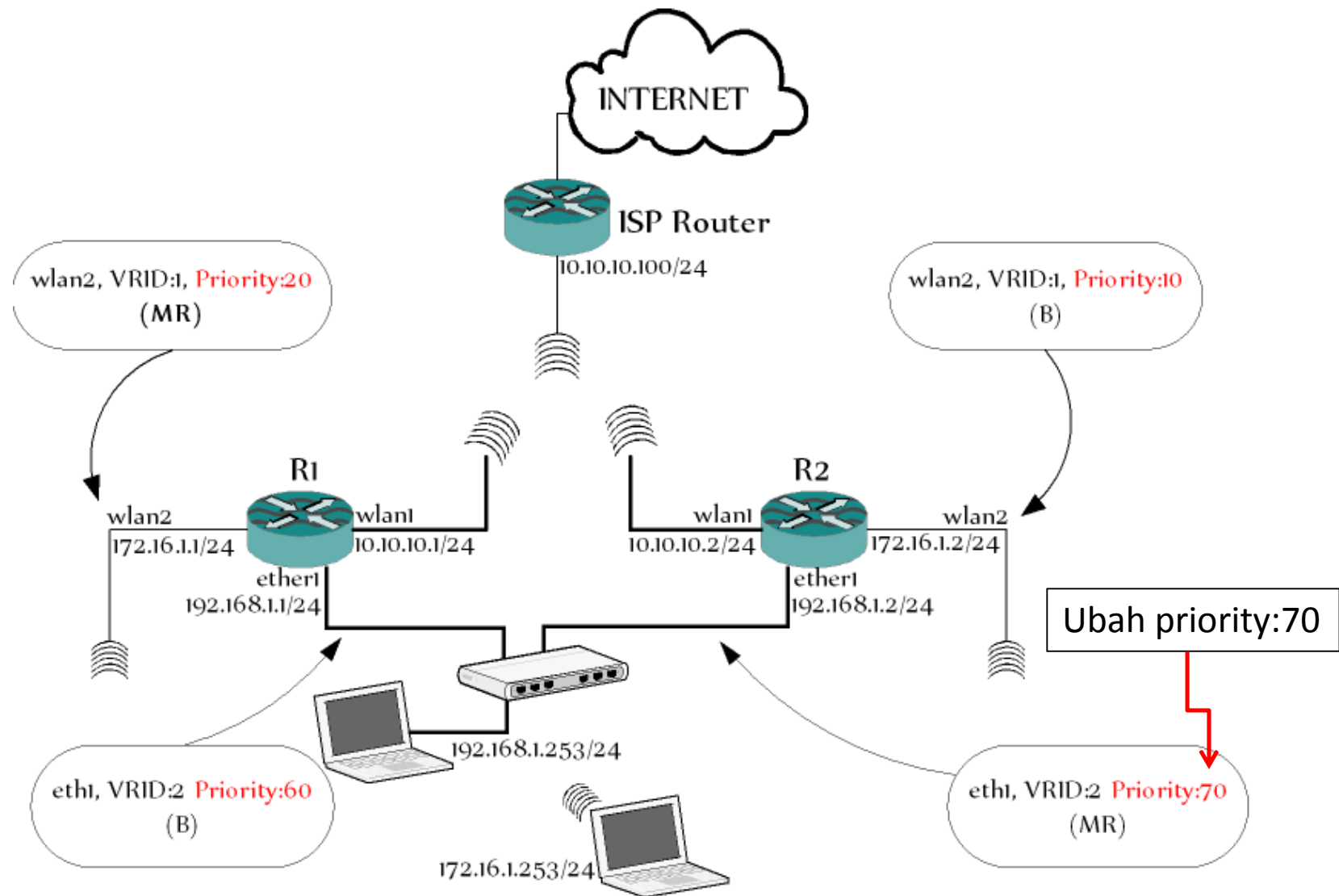
Interface: vmp_wlan2_R2

R2

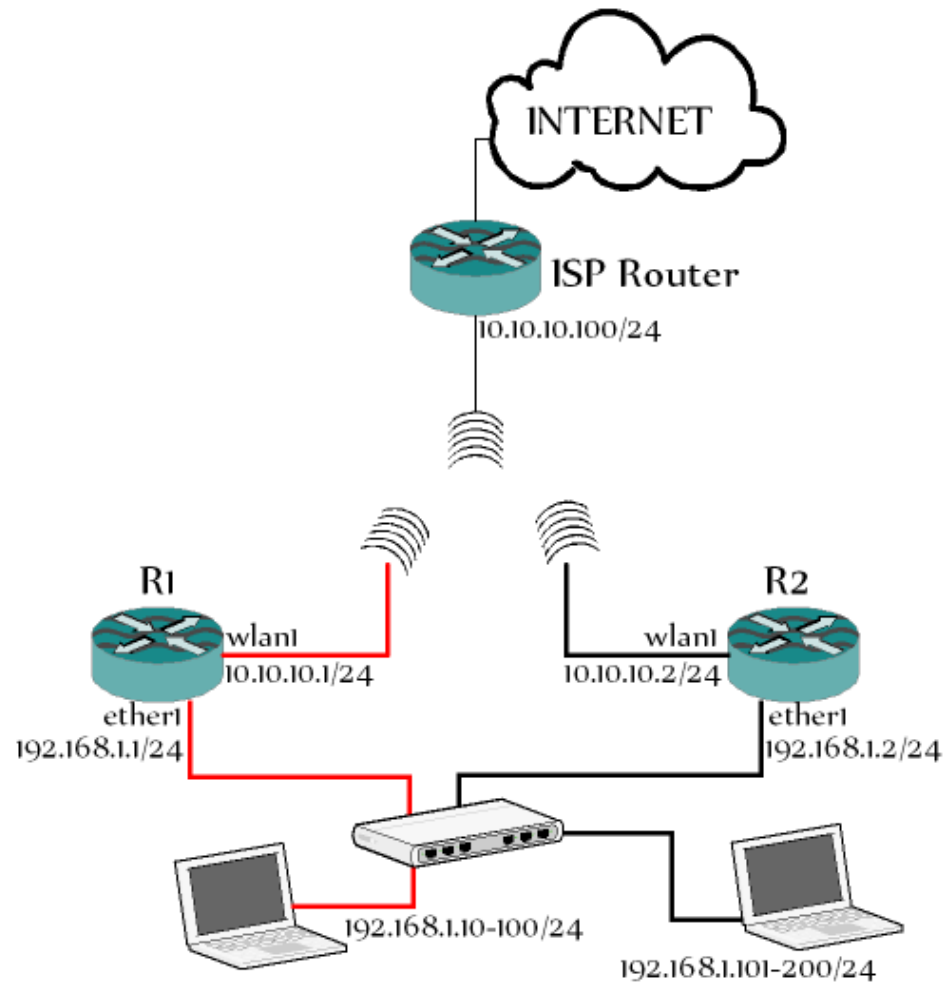
VRRP



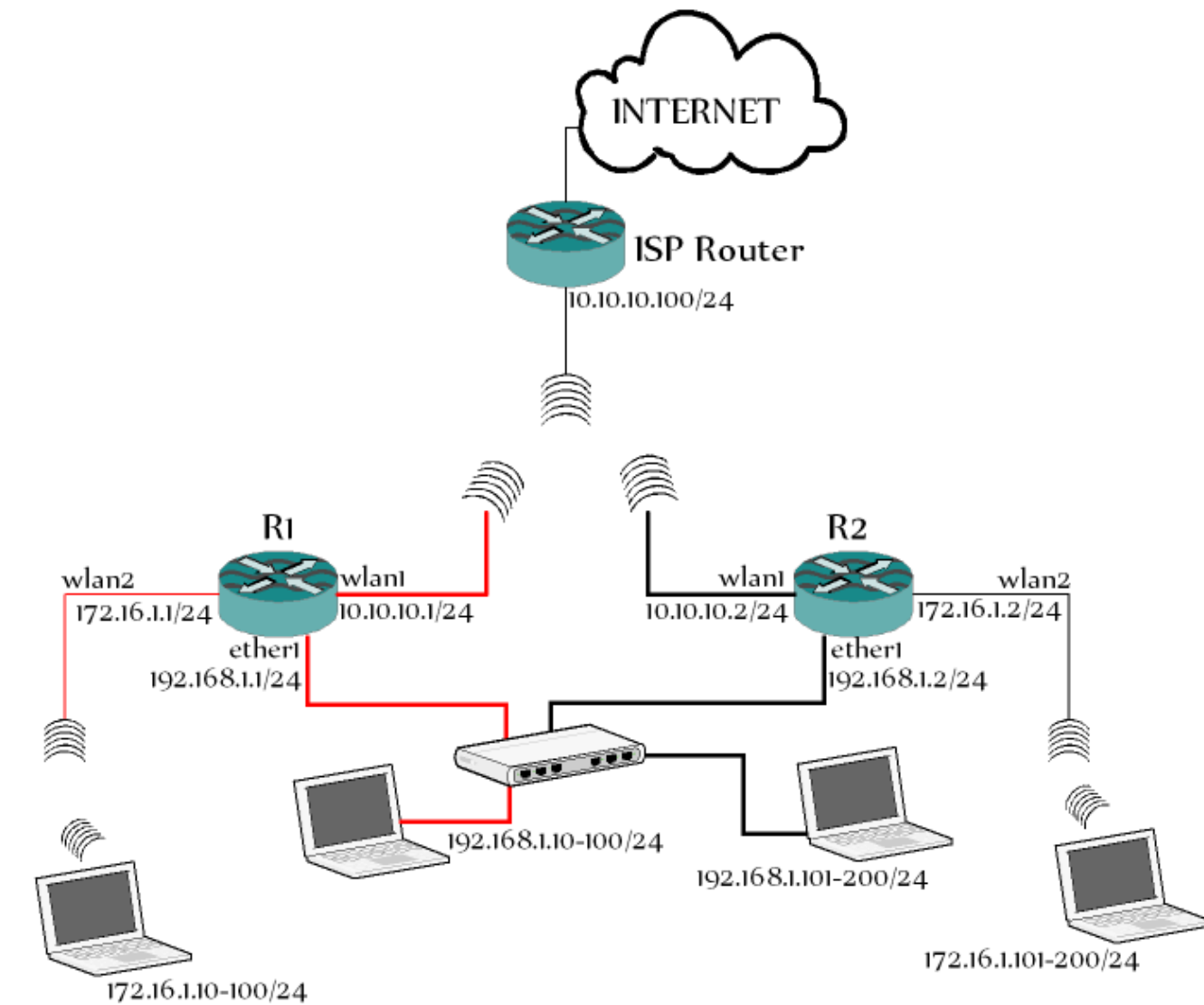
VRRP



VRRP



VRRP



Terima Kasih

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