# **Konfigurasi Router RIP Mikrotik**

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## Daftar Isi

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### Konfigurasi Router RIP Mikrotik

Tutorial kali ini kita bahas konfigurasi Router RIP menggunakan Mikrotik. Keuntungan menggunakan Routing Dinamis seperti RIP kita tidak perlu capek – capek melakukan statik routing yang cukup menguras tenaga dan pikiran. Pada routing RIP apabila kita melakukan perubahan atau penambahan subnet mikrotik, subnet tersebut cukup di daftarkan pada Networks RIP, maka secara otomatis router lain nya akan mendeteksi penambahan routing subnet baru tersebut. Tanpa perlu melakukan NAT dan Static routing.

#### Topologi Router RIP Mikrotik

Pada gambar topologi kita memiliki tiga mikrotik R1, R2 dan R3, serta pc klien MS Windows XP yang tersambung pada R3. PC Klien MS Windows 7 tersambung pada R2.



#### Konfigurasi Alamat IP R1, R2 dan R3

R1 memiliki IP address dan subnet ether1 = 10.0.2.15 / net: 10.0.2.0/24 (koneksi ke internet) ether2 = 192.168.56.38 / net: 192.168.56.0/24 (koneksi R1 ke R3) ether3 = 192.168.59.20 / net: 192.168.59.0/24 (koneksi R1 ke R2)

R2 memiliki IP Address dan subnet ether1 = 192.168.59.40 / net: 192.168.59.0/24 (koneksi R2 ke R1) ether3 = 192.168.58.56 / net: 192.168.58.0/24 (koneksi R2 ke PC Klien MS Windows 7) ether2,vlan1,vlan2 abaikan saja

R3 memiliki IP Address dan subnet ether1 = 192.168.56.39 / net : 192.168.56.0/24 (koneksi R3 ke R1) ether2 = 192.168.60.2 / net: 192.168.60.0/24 (Koneksi R3 ke PC Klien MS Windows XP)

PC MS Windows 7 (Posisi di bawah R2) IP Address: 192.168.58.10 Gateway : 192.168.58.56 DNS: 8.8.8.8 & 8.8.4.4

PC MS Windows XP (Posisi di bawah R3) IP Address : 192.168.60.77 Gateway: 192.168.60.2 DNS: 8.8.8.8 & 8.8.4.4

ā	admin@192.168.56.38 (MikroTik R1) - WinBox v5.25 on x86 (x8)							
ю	Ce Safe Mode	в						
	Interfaces	Add	ress List					
	Wireless	+	- / * 6	7		Find		
	Bridge		Address 🛆	Network	Interface	<b>•</b>		
	PPP	X	<b>+</b> 10.0.0.2/24	10.0.0.0	vlan1			
	Mesh	D	🕆 10.0.2.15/24	10.0.2.0	ether1			
	HOSH		<b>₽</b> 45 45 45 1/24	45 45 45 0	vlan2			
	IP D		🕆 192.168.56.38/24	192.168.56.0	ether2 Ke R3			
	IPv6		🕆 192.168.59.20/24	192.168.59.0	ether3 Ke R2			
	MPLS D	·						

Gambar 1: Alamat IP Mikrotik R1

	admin@192.168.59.40 (MikroTik R2) - WinBox v5.20 on x86 (x8								
Ю	😋 🛛 Safe Mod	le							
	Interfaces	Add	dress List						
	Wireless	+	- / × 2	T		Find			
	Bridge		Address	 ∧ Network	Interface	<b>_</b>			
	PPP		🕆 9.9.9.9/24	9.9.9.0	vlan2				
	Mech		<b>+</b> 12.12.12.1/24	12.12.12.0	vlan1				
	Mesh		<b>+ 1 1 1 1 1 1 1 1 1 1</b>	192,168,57,0	ether2				
	IP		<b>1</b> 92.168.58.56/24	192.168.58.0	ether3 Ke Win7				
	IPv6		🕆 192.168.59.40/24	192.168.59.0	ether1 Ke R1				
	1.40					_			
	MPLS								

Gambar 2: Alamat IP Mikrotik R2

	admin@192.168.56.39 (MikroTik R3) - WinBox v5.20 on x86 (x86)								
ø	C Safe Mode								[
Interfaces Address List									
	Wireless	+		-	T				Find
	Bridge		Address		Network	Interface	!		•
	PPP		🕆 192.168.56.39	9/24	192.168.56.0	ether1	Ke R1		
	Mesh		+ 192.168.60.2	24	192.168.60.0	ether2	Ke Win	XP	
	IP D								
	IPv6								

Gambar 3: Alamat IP Mikrotik R3

Network Connection Details								
Network Connection Details:	Network Connection Details:							
Property	Value							
Connection-specific DN Description Physical Address DHCP Enabled IPv4 Address IPv4 Subnet Mask IPv4 Default Gateway IPv4 DNS Servers	Intel(R) PRO/1000 MT Network Connecti 08-00-27-87-8F-28 No 192.168.58.10 255.255.255.0 192.168.58.56 8.8.8.8							
IPv4 WINS Server NetBIOS over Tcpip En Link-local IPv6 Address IPv6 Default Gateway IPv6 DNS Server	8.8.4.4 Yes fe80::a432:3ad:bb0:fed0%20							
Close								

Gambar 4: Alamat IP PC Klien MS Windows 7

🕹 Local Area Co	nnection Sta	itus	? 🗙					
Network Conne	Network Connection Details							
Network Connecti Property Physical Address IP Address Subnet Mask Default Gateway DNS Servers WINS Server	on Details:	Value 08-00-27-8F-FA-0 192.168.60.77 255.255.255.0 192.168.60.2 8.8.8 8.8.8 8.8.4.4	26					
	\$							
			Close					
			Close					

Gambar 5: Alamat IP PC Klien MS Windows XP

#### Konfigurasi RIP Router Mikrotik R1

#### klik Routing -> RIP

Pada Interfaces klik + (Setelah konfigurasi klik Apply dan Ok)

i	admin@192.168.56.38 (MikroTik R1) - WinBox v5.25 o							
Ø	🛛 Safe Mode							
	Interfaces	RIP						
	Wireless	Interfaces	Networks Keys	Neighbours	Routes			
	Bridge	+ -	RIP Interface <all></all>					
	PPP	Interf	Interface:	all	Ţ	ок		
	Mesh	Ripali	Dereive			<u> </u>		
	IP D		Keteive.			Cancel		
	IPv6 D		Send:	· V2	Ľ L	Apply		
	MPLS D		Authentication		•	Disable		
	Routing D		Authentication Key:			Copy		
	System 🖹		Key Chain:		F -	сору		
	Queues			Passive	— L	Remove		
	Files							
$\times$	Log		In Prefix List:		•			
8	Radius		Out Prefix List:	:	₹			
in l	Tools D		Tx Updates:	458				
$\leq$	New Terminal	•	Dy Undeber	450				
0 N	ISDN Channels		RX Opuales:	400		-		
er	KVM		Bad Packets:					
E	Make Supout.rif		Bad Routes:	: 0				
R	Manual		enabled		passiv	e		

Gambar 6: Konfigurasi Interfaces RIP R1

Kemudian klik RIP Settings pada menu interfaces

Kita redistribute semua subnet yg terkoneksi dengan R1, karena R1 adalah gateway yang terhubung langsung dengan internet.

-	admin@192.168.56.38 (MikroTik R1) - WinBox v5.25 on x86 (x86)							
5	Cafe Mode				🗹 Hide			
	Interfaces	RIP						
	Wireless	Interfaces Netwo	RIP Settings					
	Bridge	+ - < >	Distribute Defau	always				
	PPP	Interface	Discibate Derad.	Bodistributo Statis Boutos				
	Mesh	Rite all	<b>_</b>	Redistribute Connected Routes	Cancel			
	IP D				Apply			
	IPv6 D			Redistribute BGP Routes				
	MPLS D							
	Routing D		Default Route Metric:	1				
	System D		Static Routes Metric:	1				
	Queues		Connected Routes Metric:	1				
	Files		OSPF Routes Metric:	1				
$\times$	Log		BGP Routes Metric:	1				
<sup>8</sup>	Radius							
<u>.</u>	Tools D		Update Timer:	00:00:30				
$\geq$	New Terminal	•	Timeout Timer:	00:01:00				
0S	ISDN Channels	1 item (1 selected)	Garbage Timer:	00:02:00	~			
er	KVM		Routing Table:	main				
<b>h</b> t	Make Supout,rif		Rodding Table:					

Gambar 7: RIP Settings R1

Pada settingan Networks kita kosongkan, karena subnet sudah di redistribute jadi tidak perlu di definisikan lagi.



Gambar 8: Networks RIP R1



Pada Settingan Neighbours kita masukan alamat IP R2 dan R3 yang ke arah R1

Gambar 9: Neighbours RIP R1

#### Konfigurasi Router RIP Mikrotik R2

Klik Routing -> RIP -> Interfaces -> +

1	admin@192.168.59.40 (MikroTik R2) - WinBox v5.20 on							
ю	😋 🛛 Safe Mo	de						
	Interfaces		RIP	RIP Interface <all></all>				
	Wireless		Interfaces	Interface:	all 🗧	ОК		
	Bridge		<b>+ -</b>	Receive:	v2 Ŧ	Cancel		
	PPP	4	Interfac	Send:	v2 Ŧ			
	Mesh		R∳Pall	Authentication				
	IP			Addientication.		Disable		
	IPv6			Authentication Key:		Сору		
	MPLS			Key Chain:		Remove		
	Routing				Passive			
	System			In Prefix List:	₹			
	Queues			Out Prefix List:	<b></b>			
	Files							
×	Log			Tx Updates:	463			
B	Radius			Rx Updates:	463			
Vin	Tools			Bad Packets:	0			
>	New Terminal		• 1 item (1 sele	Bad Routes:	0	_		
ő	ISDN Channels		T icom (T sele	enabled		cive		
ີ່ຄ	KVM				Jpas	SIVE		

Gambar 10: Konfigurasi Interfaces RIP R2

Klik menu Networks, kita masukan network 192.168.58.0/24 yang akan di export ke routing RIP.

1	admin@192.168.59.40 (MikroTik R2) - WinBox v5.20 on x86 (x86) 🛛 🔍 🔵 📾 😣							
6	Cafe Mode	🗹 Hide Passwords 📲 🛅						
	Interfaces	RIP						
	Wireless	Interfaces Networks Keys Neighbours Routes						
	Bridge							
	PPP	Address						
	Mesh	▶ 192.168.58.0/24						
	IP D	Di isi subnet P2 yang akan kita eynort (192 168 58 0/24)						
	IPv6 D	Di isi subhet KZ yang akan kita export (192.100.30.0/24)						
	MPLS D							

Gambar 11: Konfigurasi Networks RIP R2

Klik **Neighbours**, kita masukan alamat IP R1 192.168.59.20 yang ke arah R2. Klik Apply kemudian Ok.

i	admin@192.]	168.59.40 (MikroTik R2) - WinBox v5.20 on x86 (x86)	● 🛛 😣
ю	Cafe Mode		🗹 Hide Passwords 🔳 🛅
	Interfaces	RIP	
	Wireless	Interfaces Networks Keys Neighbours Routes	
	Bridge	+ - <b>* × T</b>	Find
	PPP		
	Mesh	▶ 192.168.59.20 RIP Neighbour <192.168.59.20>	
	IP 🗅		
	IPv6 D	di poighbourt P2 dimasukan	
	MPLS 🗅	IP Addross P1 Yang ke arab P2	
	Routing 🗅		
	System D	Disable	
	Queues		
	Files	KS COPY	
	Log	Remove	
×	Radius	enabled	
B	Tools 🗅		
Vin	New Terminal		
>	ISDN Channels	1 item (1 selected)	

Gambar 12: Konfigurasi Neighbours RIP R2

#### Konfigurasi Router RIP Mikrotik R3

Klik Routing -> RIP -> Interfaces -> +

i	admin@192.168.56.39 (MikroTik R3) - WinBox v5.20 o							
ø	Call Safe Mode							
	Interfaces	RIP	RIP Interface <all></all>					
	Wireless	Interfaces	Interface:	all 🗧	ОК			
	Bridge	+	Receive:	v2 Ŧ	Cancel			
	PPP	Interfac	Send:	v2 Ŧ	Apply			
	Mesh	PqP all	Authentication:					
	IP D		Authentication Key		Disable			
	IPv6 D		Machenacadon Key.		Сору			
	MPLS D		Key Chain:		Remove			
	Routing D			Passive				
	System D		In Prefix List:	₹				
	Queues		Out Prefix List:	₹				
	Files							
	Log		Tx Updates:	45				
ŏ	Radius		Rx Updates:	45				
nB	Tools	•	Bad Packets:	0				
Ň	New Terminal	1 item (1 sele	Bad Routes:	0				
S	ISDN Channels		enabled		assive			
O	KVM			JP	000170			

Gambar 13: Konfigurasi Interfaces RIP R3

Klik menu Networks, kita masukan network 192.168.60.0/24 yang akan di export ke routing RIP.

admin@192.	L68.56.39 (MikroTik R3) - WinBox v5.20 on x86 (x86)	008
Safe Mode		🗹 Hide Passwords 📗 🛅
Interfaces	RIP	
Wireless	Interfaces Networks Keys Neighbours Routes	
Bridge		Find
PPP	Address	
Mesh	▶ 192.168.60.0/24	
IP D	Subnet R3 yang akan kita export 192.168.60.0/2	4

Gambar 14: Konfigurasi Networks RIP R3

Klik **Neighbours**, kita masukan alamat IP R1 192.168.56.38 yang ke arah R3. Klik Apply kemudian Ok.

-	admin@192	.168.56.39 (MikroTik R3) - WinBox v5.20 on x86 (x86)	
ю	Call Safe Mod	e	🗹 Hide
	Interfaces	RIP	
	Wireless	Interfaces Networks Keys Neighbours Routes	
	Bridge	+ × × 7	
	PPP	Address	
	Mesh	▶ 192.168.56.38 RIP Neighbour <192.168.56.38>	
	IP	Address: 192 168 56 38	
	IPv6		
	MPLS	Cancel	
	Routing	di Neighbours B3 dimasukkan Apply	
	System	IP Address B1 vg ke arah B3 Disable	
	Queues		
	Files	Сору	
	Log	Remove	
×	Radius	enabled	
2	Tools		

Gambar 15: Konfigurasi Neighbours RIP R3

#### Routing RIP yang terdeteksi otomatis

Klik Routes pada Mikrotik R1, R2 dan R3.

4	admi	n@192.	168	.56.3	8 (Mik	roTik	(R1) - W	/inBo	ox v5.25 o	n x86	(x86)	•	• 😣
ю	0	Safe Mode										Hide Passwords	🔳 🛅
	Interfa	aces	RIP										
	Wirele	ss	Inte	erfaces	Networks	Keys	Neighbours	Route	s				
	Bridge											Fin	d
	PPP			Dst. Ac	Idress	1	Gateway		From	Metric	Timeout		
	Mesh		s	▶0.0	.0.0/0		10.0.2.2		0.0.0.0	1	00:00:00		
	TD	N	C	► 10.	0.2.0/24		0.0.0.0	1	0.0.0.0	1	. 00:00:00		
	11-		С	45.	45.45.0/24		0.0.0.0		0.0.0.0	1	. 00:00:00		
	IPv6	Þ	С	192	.168.56.0/2	4	0.0.0.0	1	0.0.0.0	_ 1	00:00:00		
	MPLS	⊳	R	<b>P</b> 192	.168.58.0/2	4	0.0.0.0		192.168.59.40 🎙	2	2 00:00:38		
			C	192	.168.59.0/2	4	0.0.0.0		0.0.0.0	1	00:00:00		
	Routin	ig i	R	192	.168.60.0/2	:4	0.0.0.0		192.168.56.39	2	2 00:00:38		
	System	n 🖻											
	Queue	s											
	Files												
	Log				Routi	ng y	ang ter	dete	eksi Oton	natis d	di R1		
×	Radius	;						12					
B	Tools	Þ											
Vin	New T	erminal	7.00										
>	TSDM (	bannels	17 108	3115									

Gambar 16: Routes RIP R1

## Kurusetra Computer (www.kurusetra.web.id)

admin@	@ <b>192.</b> ]	L68	.59.4	IO (Mik	roTi	k R2) - W	/inBox	v5.2	0 on x	86 (x86)		•••
Sa	afe Mode	]									Hide Password	ds 🛛 🔳 🛅
Interfaces	s	RIP										
Wireless		Inte	rfaces	Networks	Keys	Neighbours	Routes					
Bridge		7										Find
PPP			Dst. Ad	Idress	∆ Ga	iteway	From		Metric	Timeout		•
Mesh		R	<b>₽</b> 0.0.	.0.0/0	0.	0.0.0	192.168	.59.20	2	00:02:52		
TP	Þ	R	10.0	0.2.0/24	0.	0.0.0	192.168	.59.20	2	00:02:52		
		R	45.4	45.45.0/24	0.	0.0.0	192.168	.59.20	2	00:02:52		
IPv6	Þ	R	192	.168.56.0/2	4 0.	0.0.0	192.168	.59.20	2	00:02:52		
MPLS	$\triangleright$	R	192	.168.58.0/2	4 0.	0.0.0	0.0.0.0		1	00:00:00		
		R 🔍	192	.168.60.0/2	4 0.	0.0.0	192.168	.59.20	3	00:02:52		
Routing	V	•								•		
System	⊳		Rou	iting O	tom	natis yan	g ter	detek	si di F	R2		
Queues				_		-	_					

Gambar 17: Routes RIP R2

-	admin@192.	58.56.39 (M	ikroTi	ik R3) - W	/inBox v5.20	on xa	6 (x86)	0	• 😣		
6	🛛 Safe Mode							✓ Hide Passwords			
	Interfaces	IP									
	Wireless	Interfaces Networks Keys Neighbours Routes									
	Bridge	7	Fin	d							
	PPP	Dst. Address	A	Gateway	From	Metric	Timeout				
	Mesh	R P0.0.0.0/0		0.0.0.0	192.168.56.38	2	00:02:42				
	m N	R 🕨 10.0.2.0/24	(	0.0.0.0	192.168.56.38	2	00:02:42				
	IP I	२ 🔰 Þ 45.45.45.0/:	24 (	0.0.0.0	192.168.56.38	2	00:02:42				
	IPv6 🕑	२ 🔍 🕨 192.168.58.	0/24 🤰 (	0.0.0.0	192.168.56.38	3	00:02:42				
	MPLS D	२ 🜓 192,168,59;	JJZ4 (	0.0.0.0	192.168.56.38	-2	00:02:42				
		२ 🛛 Þ 192.168.60.	0/24 (	0.0.0.0	0.0.0.0	1	00:00:00				
	Routing P	Routing vang terdeteksi otomatis di R3									
	System 🗅	Routing yang terdeteksi otomatis ul KS									
	Queues										
	Files										
	Log										
×	Radius				2						
B	Tools D										
Vin	New Terminal	iteres									
	6 items ISDN Chappels										

Gambar 18: Routes RIP R3



Pengujian koneksi MS Windows XP dan MS Windows7

Gambar 19: Ping MS Windows 7

C:\WINDOWS\system32\cmd.e	exe - ping 8.8.8.8 -t		_ <b>_ x</b>
Reply from 8.8.8.8: bytes= Reply from 8.8.8.8: bytes= Reply from 8.8.8: bytes=	32 time=97ms TTL=123 32 time=118ms TTL=123 32 time=101ms TTL=123 32 time=101ms TTL=123 32 time=104ms TTL=123 32 time=104ms TTL=123 32 time=93ms TTL=123 32 time=104ms TTL=123 32 time=104ms TTL=123 32 time=104ms TTL=123 32 time=104ms TTL=123 32 time=104ms TTL=123 32 time=104ms TTL=123	Ping WinXP ke Google	
Reply from 8.8.8.8: Reply Reply Reply Reply from 8.8.8.8: Reply	WINDOWS'system32'cmd.exc - [ from 192.168.58.10: byte from 192.168.58.10: byte	bing 192.168.58.10 -t s=32 time=3ms TIL=125 s=32 time=1ms TIL=125 s=32 time=5ms TIL=125 s=32 time=4ms TIL=125 s=32 time=3ms TIL=125	_□× ▲ Ping WinXp ke Win7

Gambar 20: Ping MS Windows XP

Test Traceroute WinXP dan Win7



Gambar 21: Traceroute Win7 ke WinXP



Gambar 22: Traceroute WInXP ke Win7