# **LAMPIRAN**

## Lampiran 1 : Konfigurasi

### Setting Mikrotik

a. Pastikan usb terdeteksi oleh port list mikrotik

Port List			
Ports Remote	e Access		
	Firmware		Find
Name	∠ Used By	Channels Baud Rate	e Flow Control 💌
ar usb1	PPP <ppp-out1></ppp-out1>	4 9600	none
1 item			

#### Konfigurasi Mikrotik

b. Setting Interface untuk PPP (point to point protocol).

РРР		
Interface PPPoE Servers Secrets Profiles A	ctive Connections	
+ - < ☆ 🕾 🍸 PPP Scan	er PPTP Server SSTP Server L2TP Server C	VPN Server PPPoE Scan Find
Name / Type	L2 MTU Tx Rx	Tx Packet (p/s) Rx Packet (p/s) 💌
R «->ppp-out1 PPP Client	1500 27.0 kbps 4.5 kbps	6 6
1 item out of 8		

#### Setting interface PPP

Interface <ppp-out< th=""><th>1&gt;</th><th></th></ppp-out<>	1>	
General PPP	Status Traffic	ОК
Name:	pp-out1	Cancel
Type: F	PP Client	Apply
L2 MTU: 1	500	Disable
Max MTU: 1	500	Comment
Max MRU: 1	500	Сору
MRRU:		Remove
Port: u	ısb1 ₹	Torch
Data Channel: 0		Scan
Info Channel: 0		Info
Modem Init:	▼	Simple Mode
	Null Modem	
APN: 3	lgprs 🔺	
PIN:		
enabled	running slave Stat	tus: connected

c. Setting interface PPP out untuk modem

Setting PPP Out

d. Setting modem

Interface <ppp-out1></ppp-out1>			
General PPP Stat	tus Traffic		ОК
Pho	ne: *99#	<b></b>	Cancel
Dial Comman	nd: ATDT		Apply
Us	ser:		Disable
Passwo	ord:	-	Comment
Remote Addre	ISS:	•	Сору
Prof	ile: default	₹	Remove
Keepalive Timeo	out: 30	<b></b>	Torch
	Dial On De	mand	Scan
	Use Peer D	NS .	Info
Default Route Distan	ce: 1	t Route	Simple Mode
- Allow	✓ chap ✓ msch	) hap2	
enabled n	unning	slave	_ Status: connected

Gambar 5-0-1 Setting Modem ISP

### Matikan bridge pada mikrotik

Bridg	e									×
Brid	ge Ports Filters	NAT Hosts								
÷	- ~ ~	🗇 🍸 Settings							Find	
	Name	🛆 Туре	L2 MTU	Tx	Rx	Tx Packet (p/s)	Rx Packet (p/s)	MAC Address	Protoco	•
X	12bridge-local	Bridge		270.5 kbps	22.2 kbps	42	35	4C:5E:0C:AF:9C:3F	rstp	
										- 14
										- 14
										- 14
										- 14
										- 14
1 iter	n out of 8									

Setting bridge

e. Setting Interface untuk koneksi WAN Pfsense

	Address List								
Address Network Interface ▼   ::: default configuration	+ - 🖌 🗶 🗖 🍸 🛛 Find								
::: default configuration   合 10.10.10.1/24 10.10.10.0 bridge-local   合 10.10.10.1/24 10.10.10.0 ether2-master-lo   D 合 10.181.140.36 10.112.112.129 ppp-out1	Address 🛆	Network	Interface	•					
中 10.10.11/24 10.10.0 bridge-local 中 10.10.10.1/24 10.10.0 ether2-master-lo D 中 10.181.140.36 10.112.112.129 ppp-out1	;;; default configuration	n							
	÷ 10.10.10.1/24	10.10.10.0	bridge-local						
D	<b>+</b> 10.10.10.1/24	10.10.10.0	ether2-master-lo						
	D 🕆 10.181.140.36	10.112.112.129	ppp-out1						
3 items (1 selected)	3 items (1 selected)								

Setting Interface WAN Pfsense

Add				
÷	- * *	- 7	Find	
	Address 🗸	Network	Interface 💌	
:	;; default configuration	n		
	<b>+</b> 10.10.10.1/24	10.10.10.0	bridge-local	
	<b>中</b> 10.10.10.1/24	10.10.10.0	ether2-master-lo	
D	<b>+</b> 10.181.140.36	10.112.112.129	ppp-out1	
			Address <10.10.10.1/24>	
			Address: 10.10.1/24	ОК
			Network: 10.10.10.0	Cancel
			Interface: ether2-master-local Ŧ	Apply
				Disable
				Comment
3 ite	ems (1 selected)			Сору
				Remove
			enabled	

a. Membuat koneksi untuk WAN

b. Konfigurasi routing di menu route list

Route Lis	t					×
Routes	Nexthops Rules	VRF				
+ -		T		Fi	nd all	₹
[	Dst. Address 🛛 🔺	Gateway	Distance	Routing Mark	Pref. Source	-
DAS	0.0.0/0	10.112.112.129 reachable ppp-out1	1			
DAC	10.10.10.0/24	ether2-master-local reachable	0		10.10.10.1	
DAC	10.112.112.129	ppp-out1 reachable	0		10.181.140.36	
XS	192.168.1.0/24	ether2-master-local	1			
AS	192.168.1.0/24	10.10.10.10 reachable ether2-master-local	1			
5 items (1	l selected)					

Konfigurasi Routing

c. Setting rute untuk koneksi WAN

Route List																	
Routes N	lexthops	Rules	VR	F													
+ -		-	T	·										Fir	nd	all	Ŧ
Dst	Addres	s 🛆	Gate	way							Distanc	e	Routing Mar	k	Pref. Se	ource	-
DAS 🕨	0.0.0.0/0	כ	10.1	12.112.	129 read	hable	ppp-out	1				1					
DAC 🕨	10.10.10	.0/24	ether	r2-maste	er-local re	acha	ible					0			10.10.1	0.1	
DAC P	10.112.1	12.129	ppp-	out1 rea	chable							0			10.181	.140.30	5
AS P	192.168	1.0/24	ether	-2-maste	reachabl	lo oth	or? most	tor lo				- 1					
7.5 P	132.100	1.0/24	10.1	0.10.10	reachab	e eur	iei zhiidau		Cal								
Route <10.	.10.10.0/	24>														×	
General	Attribute	s													ок		
Dst. Ad	ddress:	10.10.10	0.0/24	4										Г	Сору		
Gat	teway: [	ether2-m	aster	local			reachabl	e							Remove		
Check Gat	teway:																
	Tune:	unicaet															
	type.	unicast															
Dis	tance:	0															
S	Scope: [	10														- 11	
Target S	Scope:	10														- 11	
Routing	Mark:															- 11	
Pref. S	ource: [	10.10.10	0.1													- 11	
																- 11	
																- 11	
																- 11	
																- 11	
																- 11	
										 						_	
dynamic								a	ctive			conr	nected				

Setting Route untuk WAN

Route List									j 🗙
Routes Nexthops	s Rules VRF								
+ :	x 🗂 🍸					F	ind	all	Ŧ
Dst. Addre	ss 🛆 Gatew	vay			Distance	Routing Mark	Pref. S	Source	-
DAS 0.0.0.0	/0 10.11	2.112.129 reachable pp	p-out1		1				
DAC P 10.10.1	0.0/24 ether2	2-master-local reachable			0		10.10	10.1	
XS 192.16	8.1.0/24 ether2	2-master-local			1		10.10	1.140.00	
AS Þ 192.16	8.1.0/24 10.10	.10.10 reachable ether2	-master-local		1				
Route <192.168.1.	.0/24>								l×
General Attribut	es							ОК	
Dst. Address:	192.168.1.0/24	4						Cance	1
Gateway:	10.10.10.10	Ŧ	reachable	ether2-master-local			•	Apply	
Check Gateway:							•	Disable	в
Туре:	unicast						₹	Comme	nt
Distance:	1							Сору	
Scope:	30							Remov	e
Target Scope:	10								
Routing Mark:							] •		
Pref. Source:							-		
enabled				active		static			

d. Setting rute untuk koneksi LAN

Setting Route untuk LAN

# Lampiran 2 : Tes ping

Pengecekan koneksi dengan ping

Ping dari PC LAN (192.168.1.5)

Terminal						
Move	up one level					•
/command Use c	ommand at the base level					
[admin@MikroTik] > pi	ng 10.10.10.1					
SEQ HOST	-	SIZE	TTL	TIME	STATUS	
0 10.10.10.1	Mikrotik GW	56	64	Oms		
1 10.10.10.1		56	64	Oms		
2 10.10.10.1		56	64	Oms		
3 10.10.10.1		56	64	Oms		
4 10.10.10.1		56	64	Oms		
5 10.10.10.1		56	64	Oms		
sent=6 received=6	packet-loss=0% min-rtt=0m	s avç	j-rti	:=0ms	max-rtt=0ms	
[admin@MikroTik] > pip	ng 10.10.10.10					
SEQ HOST		SIZE	TTL	TIME	STATUS	
0 10.10.10.10		56	64	Oms		
1 10.10.10.10	WAN Pfsense	56	64	Oms		
2 10.10.10.10	the art is close	56	64	Oms		
3 10.10.10.10		56	64	Oms		
4 10.10.10.10		56	64	Oms		
5 10.10.10.10		56	64	Oms		
6 10.10.10.10		56	64	Oms		
sent=7 received=7	packet-loss=0% min-rtt=0m	s avç	j-rti	=0ms	max-rtt=0ms	
_						
[admin@MikroTik] >						+

**Test Ping** 

Ping dari mikrotik ke client dan LAN Pfsense (10.10.10.1)

Terminal			
/ Move u	up to base level		+
Move u	up one level		
/command Use co	mmand at the base leve	L	
[admin@MikroTik] > pir	ng 192.168.1.1		
SEQ HOST		SIZE TTL TIME STATUS	
0 192.168.1.1		56 64 Oms	
1 192.168.1.1	IP GW LAN	56 64 Oms	
2 192.168.1.1		56 64 Oms	
3 192.168.1.1		56 64 Oms	
4 192.168.1.1		56 64 Oms	
5 192.168.1.1		56 64 Oms	
<pre>sent=6 received=6</pre>	packet-loss=0% min-rtt	=Oms avg-rtt=Oms max-rtt=Oms	
te desi - Ovisione misione e este			
[admingMikrolik] > pir	ng 192.168.1.5		
SEQ HUST		SIZE TTL TIME STATUS	
0 192.168.1.5		56 127 Ums	
1 192.168.1.5	IP LAN Client	56 127 Ums	
2 192.168.1.5		56 127 Oms	
3 192.168.1.5		56 127 Oms	
4 192.168.1.5		56 127 Oms	
5 192.168.1.5		56 127 Oms	
sent=6 received=6	packet-loss=0% min-rtt	-Oms avg-rtt=Oms max-rtt=Oms	
[admin@MikroTik] >			+

**Test Ping** 



Lampiran 3 : Dokumentasi Selama Pengerjaan

Proses Pengujian Sistem yang telah dibangun



Proses Pengujian Captive Portal