Membuat Jaringan dengan DHCP Server, DHCP Client dan NAT

1. Konfigurasi Kabel

- Koneksi keluar seabagai DHCP Client lewat ether1 ke jaringan LAB, (bisa koneksi ke Internet)
- DHCP Server untuk ether2, jaringan dalam,
- Lokal IP address ether2= 192.168.10.0/24
- seperti gambar berikut:



2. Reset System

• Sebelum melakukan konfigurasi lakukan Reset System, seperti pada gambar di bawah ini:

🗠 nouung		
🌐 System 🛝 🗅	History	
Queues	Identity	Reset Configuration
Files	LEDs	Keep User Configuration Beset Configuration
	License	CAPS Mode
	Logging	No Default Configuration
	Packages	Do Not Backup
× Iools	Password	Run After Reset:
New Terminal	P	
∢i> Dot1X	Ports	
🔜 MetaROUTER	Reboot	
🔔 Partition	Reset Configuration	n

• Atau dengan *command line*

[admin@MikroTik] > system reset-configuration

3. Login Ke Router

- Login menggunakan MAC Address
- Klik **Connec** seperti pada gambar berikut:

S WinBox v3.19 (Addresses)	_		×
File Tools			
Connect To: 74:4D:28:ED:23:E5 Login: admin Password: Add/Set Connect To RoMON Connect	✓ Keep ✓ Oper	Passwor n In New 1	d Window
Managed Neighbors	Find	IPv4 o	nly Ŧ
MAC Address / Identity / Version 74:4D:28:ED:23:E5 MikroTik 6.45.6 (stable)			•

Masuk ke menu utama mikrotik



- 4. Membuat DHCP Client
 - Port ether1 terhubung ke internet, bagian dari client jaringan, di Laboratorium
 - Klik IP
 - Pili DHCP Client
 - Klik Tombol 🕂

- Pilih DHCP dan Interface Ether1
- Klik **OK** seperti pada Gambar berikut:



• Akan mendapatkan ip seperti berikut:

DHCP Client							
DHCP Client	HCP Client Option	าร					
+ - 🖉	× 🖻 🍸	Rele	ase Renew				Find
Interface	∠ Use P	Add D	IP Address	Exp	pires After	Status	
ether1	yes	yes	172.18.100.16/24		2d 23:59:15	bound	
4.9							
litem							

5. Memberi Ip Address pada ether2

- Pilih Klik IP
- Pilih Klik Address
- Address List Klik 🕂
- Isikan Address 192.168.10/24 dan
- Interface Pilih ether2
- Klik **OK**, seperti pada gambar berikut:

Address List	ch Accounting h Addresses Cloud	[
Address D ☆ 172.18.100.16/24 ::: defconf ☆ 192.168.88.1/24	New Address Address: 192.168.10.1/24 Network: ✓ Interface: ether2	OK Cancel Apply Disable Comment Copy Remove
	enabled	

6. Membuat DHCP Server

- Pilih IP
- Klik DHCP Server
- Klik Tab DHCP Setup
- DHCP Server Interface : ether2

	DHCP Server	
	DHCP Networks Leases Options Option Sets Alerts	
°t% Mesh	Addresses DHCP ConfigDHCP Setup	Find
255 IP	Cloud ace Relay Lease Time	Addres ▼
MPLS	DHCP Client DHCP Setup	UU derauit-dhi
減 Routing	DHCP Relay Select interface to run DHCP server on	
鍋 System	DHCP Server DHCP Server Interface: ether2	
	Back Next Cancel	•

- Klik Next
- DHCP Address space 192.168.10.0/24 (isi alamat jaringan), seperti gambar berikut:

DHCP Setup
Select network for DHCP addresses
DHCP Address Space: 192.168.10.0/24
Back Next Cancel

• Klik Next

• Gateway for DHCP Network : 192.168.10.1 (client akan menggunakan ip getaway/ip router), seperti pada gambar berikut:

DHCP Setup	×
Select gateway for given network	
Gateway for DHCP Network: 192.168.10.1]
Back Next Cancel]

- Klik Next
- Address to Give Out: 192.168.10.2 192.168.10.254 (untuk menentukan ip yang di berikan ke client antara 192.168.10.2 sampai 192.168.10.254) seperti pada gambar berikut:

181° 117	uu oetaut-op
DHCP Setup	
Select pool of ip addresses given out by DHCP server	
Addresses to Give Out: 192.168.10.2-192.168.10.254	
Back Next	Cancel

- Klik Next
- **DNS Server : 172.18.100.254** (mengikut dns haringan setempat), atau bisa gunakan ip router, lihat gambar berikut:



• Klik Next

DHCP Setup	
Select lease time	
Lease Time: 00:10:00	
	Back Next Cancel

• Klik Next Untuk mengakhiri hingga seperti gambar berikut:

	7	DHCP Config	DHCP Setup			Finit
larre	Interf	906	Relay	Lease Time	Address Pool	Add AR
lefoont	bitdg	t .		00:10	0:00 default-dhop	10
hcp1	ether	2		60:10	Floor and 00	00
				Ot	HCP Setup	

• Melihat DHCP Server

New Terminal Ketikan seperti berikut:

```
[admin@MikroTik] > ip dhcp-server print
Flags: D - dynamic, X - disabled, I - invalid
 #
      NAME
                                                  INTERFACE
 0
      defconf
                                                  bridge
 1
      dhcp1
                                                  ether2
[admin@MikroTik] > ip dhcp-server network print
Flags: D - dynamic
                                  DNS-SERVER
                                                   WINS-SERVER
#
    ADDRESS
                       GATEWAY
                                                                   DOMAIN
0
    192.168.10.0/24
                       192.168.10.1
1
    ;;; defconf
    192.168.88.0/24
                    192.168.88.1
[admin@MikroTik] > ip pool print
# NAME
                                    RANGES
0 default-dhcp
                                    192.168.88.10-192.168.88.254
1 dhcp_pool1
                                    192.168.10.2-192.168.10.254
```

Atau contoh berikut ether4 DHCP server dengn ip 192.168.40.0/24

```
[admin@MikroTik] > ip address add interface=ether4 address=192.168.40.1/24
[admin@MikroTik] > ip dhcp-server
[admin@MikroTik] /ip dhcp-server> setup
Select interface to run DHCP server on
dhcp server interface: ether4
Select network for DHCP addresses
dhcp address space: 192.168.40.0/24
Select gateway for given network
gateway for dhcp network: 192.168.40.1
If this is remote network, enter address of DHCP relay
There is no such IP network on selected interface
dhcp relay: 192.168.40.1
```

```
Select pool of ip addresses given out by DHCP server
addresses to give out: 192.168.40.2-192.168.40.254
Select DNS servers
dns servers: 172.18.100.254
Select lease time
lease time: 10m
[admin@MikroTik] /ip dhcp-server>
```

7. Komputer PC

- Setting
- Network

Contraction accounts	Fithernet Properties	× atus	of this connection	Change settings of
General	Networking Sharing	and and		
IPv4 Connectivity: IPv6 Connectivity:	Connect using:	Internet Protocol Version 4 (TCP/IPv4) Properties	×
Meda State: Duration: Speed: Details Activity	This connection uses the following items Client for Microsoft Networks Fig. Client for Microsoft Networks Fig. Client for Microsoft Version 4 (TCP/I) Microsoft Version 4 (TCP/I) Microsoft LLDP Protocol Dever	General Alternate Configuration 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. Configuration of the appropriate IP settings. C		r network supports vork administrator
Sent — Bytes: 1.227.507	Hital Orestat	- Submit meski Default gateway		
SProperties Spisable	Description Transmission Control Protocol/Internet P wide area network protocol that provides across diverse interconnected networks.	Obtain DNS server add Ouse the following DNS a Preferred DNS server Alternate DNS server	erver addresses:	<u></u>
		🗌 Validate settivgs upon	est	Advanced

• Klik detail



8. Konfigurasi NAT

- Keluar srcnat, dan Out Interface: ether1
- Seperti gambar berikut

	Filter Rules NAT Mangle Raw	Service Ports	Connections	Address Li
	+ - • × - 7	00 Reset Cou	inters 00 F	Reset All Cou
	NAT Rule <>			
	General Advanced Extra Act	ion	ОК	
	Chain: srcnat	₹	Canc	el
	Src. Address:	•	Appl	y
	Dst. Address:	•	Disab	le
	Protocol:	•	Comme	ent
	Src. Port:	•	Сору	/
	Dst. Port:	•	Remo	ve
	Any. Port:	•	Reset Cou	unters
	In. Interface:	•	Reset All C	ounters
th 1e	Out. Interface: 🗌 ether1	₹ ▲		

- Lanjukan ke Klik Action, pilik Action: masquerade
- Klik OK, seperti pada gambar berikut:

NAT Rule <>		
Advanced Extra Action Statistics	OK	
Action: masquerade	Cancel	
Log	Apply	
Log Prefix:	Disable	
To Ports:	Comment	
	Сору	
	Remove	
	Reset Counters	
	Reset All Counters	

9. Membuat DHCP Server pada ether3

• Menggunakan Command Line terminal

```
[admin@MikroTik] > ip address add address=192.168.30.1/24 interface=ether3
[admin@MikroTik] > ip pool add name=poolPort3 ranges=192.168.20.1-192.168.20.100
[admin@MikroTik] > ip dhcp-server add address-pool=poolPort3 interface=ether3
[admin@MikroTik] > ip dhcp-server network add address=192.168.30.0/24
gateway=192.168.30.1 dns-server=192.168.30.1
```

10. Lihat IP address

[admin@MikroTik] > ip address print

	Te	minal					
A.	[admin@MikroTik] > ip address print						
Flags: X - disabled, I - invalid, D - dynamic							
	#	ADDRESS NETWORK	INTERFACE				
	0	192.168.10.1/24 192.168.10.	.0 ether2				
20	1	D 172.18.100.16/24 172.18.100.	.0 ether1				
	2	192.168.30.1/24 192.168.30.	.0 ether3				
1	3	192.168.40.1/24 192.168.40.	.0 ether4				
-	[a	imin@MikroTik] >		•			

11. Lihat DHCP Network

[admin@MikroTik] > ip dhcp-server network print

Ter	minal					×
[ad	[admin@MikroTik] > ip dhcp-server network print					٠
Fla	ags: D - dynamic					
#	ADDRESS	GATEWAY	DNS-SERVER	WINS-SERVER	DO	
0	192.168.10.0/24	192.168.10.1				
1	192.168.30.0/24	192.168.30.1	192.168.30.1			
2	192.168.40.0/24	192.168.40.1				
3	;;; defconf					
	192.168.88.0/24	192.168.88.1				
fac	imin@MikroTikl >					
						٠