



**Laboratorium  
Multimedia dan Internet of Things  
Departemen Teknik Komputer  
*Institut Teknologi Sepuluh Nopember***

# **Laporan Akhir Praktikum Jaringan Komputer**

## **Jaringan Wireless**

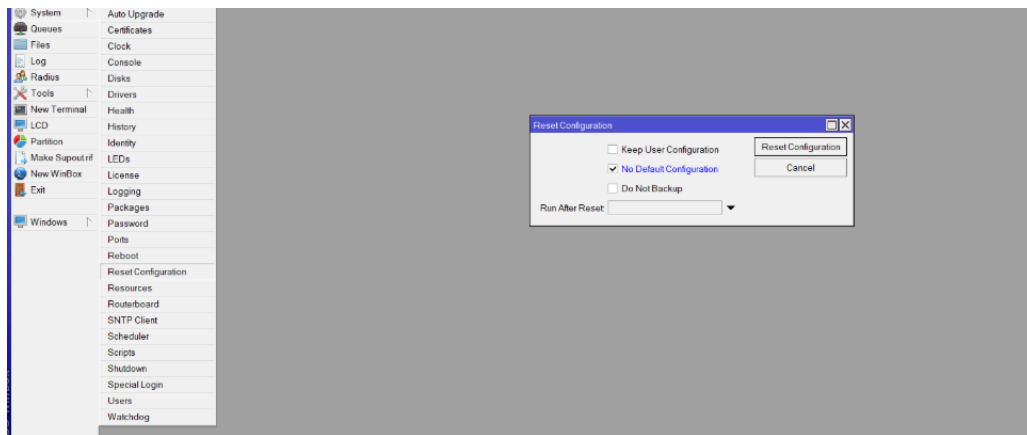
Ria Angela Tanujaya - 5024231074

2025

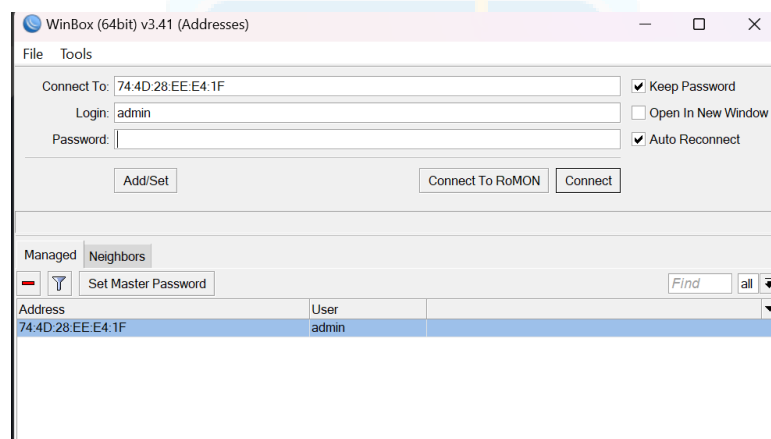
# 1 Langkah-Langkah Percobaan

## 1.1 Wireless Point to Point

1. Reset Router melalui Winbox pada menu System -> Reset Configuration

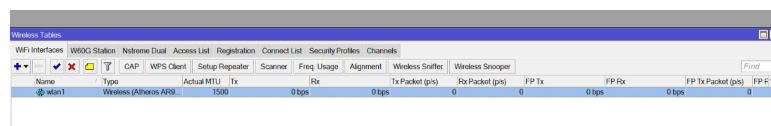


2. Login ke router melalui Winbox dalam keadaan tidak ada password kemudian klik "connect"



3. Aktifkan Interface Wireless (wlan1)

- Buka **Wireless** → **WiFi Interfaces**.
- Pilih **wlan1**, klik ikon panah biru untuk mengaktifkan.



4. Konfigurasi Wireless

### (a) Router A

- Klik dua kali **wlan1**, masuk ke tab **Wireless**.
- Mode: **Bridge**
- SSID: **Kelompok\_15\_PTP** (bebas)

Scanner (Running)

Interface: wlan1

☐ Background Scan

Start  
Stop  
Close  
Connect  
New Window

	Address	SSID	Channel	Signal...	Noise ...	Signal...	Radio Name	RouterO...
ARB	CC:2D:E0:98:AA:3D	PointToPo...	2412/20...	-51	-95	44	CC2DE098AA3D	6.42.1
ARB	64:D1:54:FA:E9:69	PointToPo...	2412/20...	-55	-95	40	64D154FAE969	6.42.1
ARB	CC:2D:E0:98:AA:BF	Kelompok...	2412/20...	-29	-95	66	CC2DE098AABF	6.42.1
AP	22:71:27:6E:13:13	Y!	2412/20...	-60	-95	35		
AP	E8:10:98:AB:79:E0	myITS-WiFi	2412/20...	-74	-95	21		
AP	E8:10:98:AB:79:E1	eduroam	2412/20...	-76	-95	19		
AP	E8:10:98:AB:79:E3	myITS-Wi...	2412/20...	-73	-95	22		
AP	18:62:E4:3F:78:C7	SMA3006...	2412/20...	-80	-95	15		
AP	E8:10:98:AB:79:E2		2412/20...	-74	-95	21		
AP	A8:5B:F7:09:D0:43	myITS-Wi...	2437/20...	-77	-95	18		
AP	A8:5B:F7:09:67:71	eduroam	2462/20...	-72	-95	23		
AP	A8:5B:F7:09:67:70	myITS-WiFi	2462/20...	-72	-95	23		
AP	A8:5B:F7:09:67:72		2462/20...	-69	-95	26		
AP	A8:5B:F7:09:67:73	myITS-Wi...	2462/20...	-71	-95	24		
AP	74:AC:B9:03:CC:45	DTE-Rem...	2462/20...	-80	-95	15		

15 items (1 selected)

(b) **Router B**

- Klik dua kali **wlan1**, masuk ke tab **Wireless**.
- Mode: **Station**
- Klik tombol **Scan**, pilih **wlan1**, cari SSID Router A dan klik **Connect**.

Interface <wlan1>

General Wireless HT WDS Nstreme NV2 Advanced Status ...

Mode: station

Band: 2GHz-B/G

Channel Width: 20MHz

Frequency: 2412 MHz

SSID: MikroTik

Scan List: default

Wireless Protocol: any

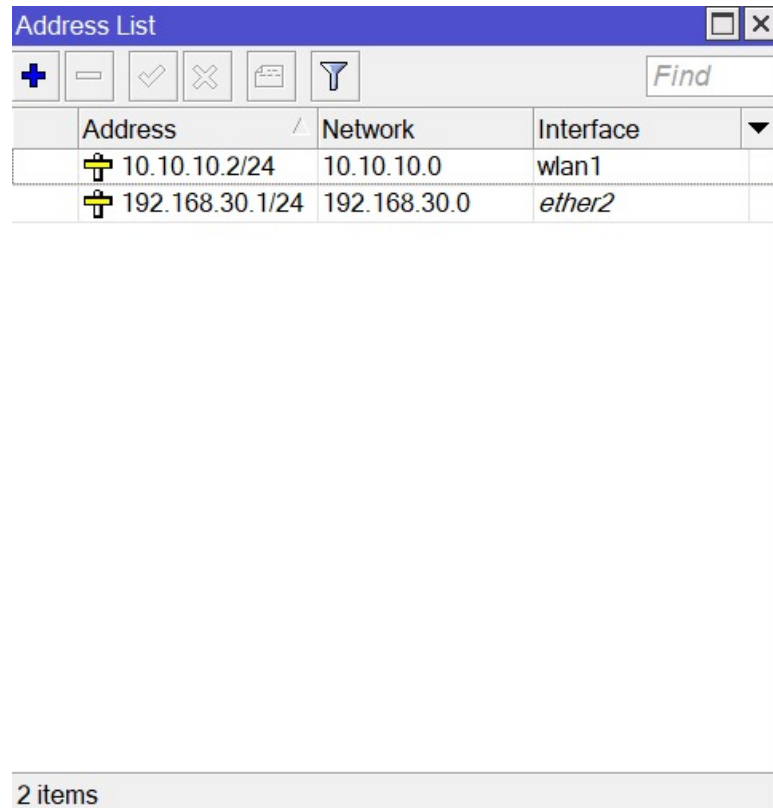
Security Profile: default

☒ Default Authenticate

OK  
Cancel  
Apply  
Disable  
Comment  
Advanced Mode  
Torch  
WPS Accept  
WPS Client  
Setup Repeater  
Scan...  
Freq. Usage...  
Align...  
Sniff...  
Snooper...  
Reset Configuration

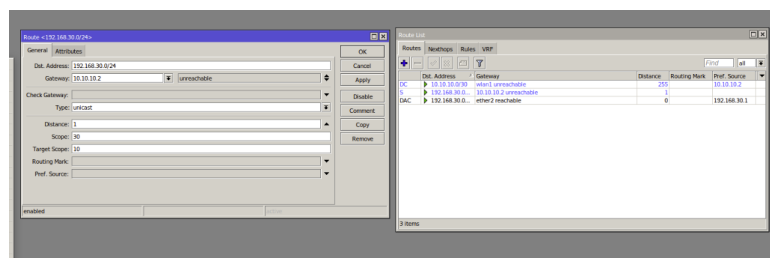
5. • Set IP Address pada wlan1
- Router A: 10.10.10.1/29
  - Router B: 10.10.10.2/29

- Set IP Address untuk LAN (ether2)
  - Router A: 192.168.20.1/24
  - Router B: 192.168.30.1/24

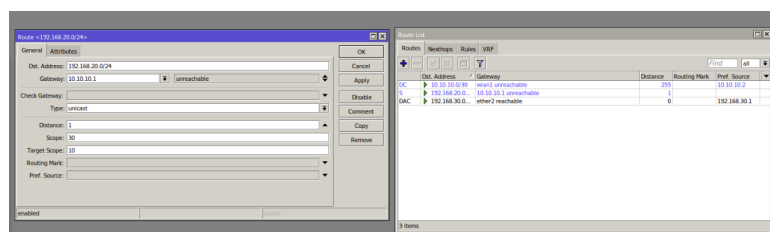


## 6. Konfigurasi Routing Statis

- Router A:
  - Dst. Address: 192.168.30.0/24
  - Gateway: 10.10.10.2



- Router B:
  - Dst. Address: 192.168.20.0/24
  - Gateway: 10.10.10.1



## 7. Uji Koneksi Antar Router

- Dari Router A: ping 10.10.10.2
- Dari Router B: ping 10.10.10.1

```
Terminal <1>
MikroTik RouterOS 6.42.1 (c) 1999-2018      http://www.mikrotik.com/

[?]          Gives the list of available commands
command [?]  Gives help on the command and list of arguments

[Tab]        Completes the command/word. If the input is ambiguous,
              a second [Tab] gives possible options

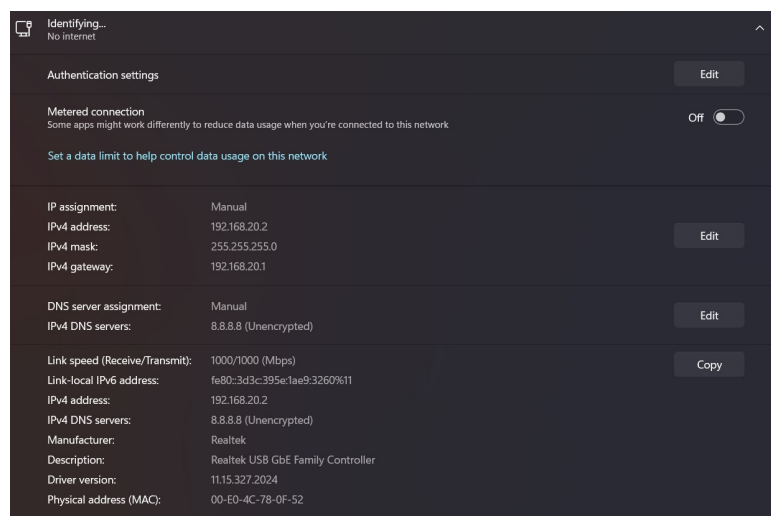
/            Move up to base level
..           Move up one level
/command     Use command at the base level
[admin@MikroTik] > ping 10.10.10.1

  SEQ HOST                                SIZE TTL TIME  STATUS
    0 10.10.10.1                          56  64  1ms
    1 10.10.10.1                          56  64  1ms
    2 10.10.10.1                          56  64  0ms
    3 10.10.10.1                          56  64  1ms
    4 10.10.10.1                          56  64  1ms
    5 10.10.10.1                          56  64  1ms
    6 10.10.10.1                          56  64  2ms
    7 10.10.10.1                          56  64  23ms
    8 10.10.10.1                          56  64  0ms
```

## 8. Set IP Static pada Laptop

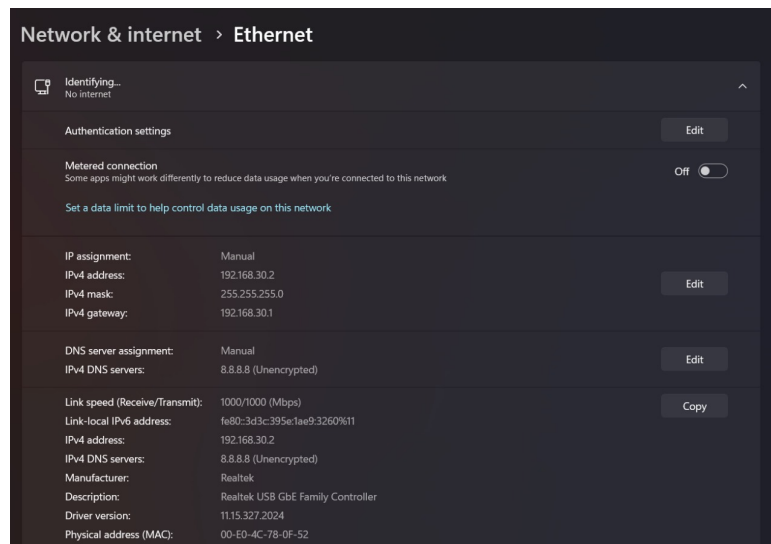
### (a) Laptop A (Router A)

- IP: 192.168.20.2
- Gateway: 192.168.20.1
- DNS: 8.8.8.8



### (b) Laptop B (Router B)

- IP: 192.168.30.2
- Gateway: 192.168.30.1
- DNS: 8.8.8.8



## 9. Uji Koneksi Antar Laptop

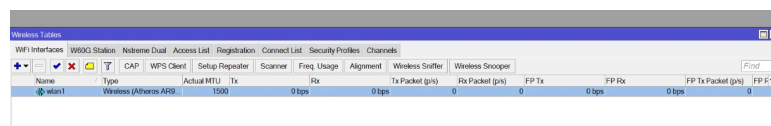
Lakukan PING dari Laptop A ke Laptop B. Jika berhasil, maka konfigurasi jaringan dan routing telah berjalan dengan benar.

```
Terminal <2>
command [?] Gives help on the command and list of arguments
[Tab] Completes the command/word. If the input is ambiguous,
a second [Tab] gives possible options
/ Move up to base level
.. Move up one level
/command Use command at the base level
[admin@MikroTik] > ping 192.168.20.1
SEQ HOST SIZE TTL TIME STATUS
0 192.168.20.1 56 64 0ms
1 192.168.20.1 56 64 1ms
2 192.168.20.1 56 64 1ms
3 192.168.20.1 56 64 0ms
4 192.168.20.1 56 64 0ms
5 192.168.20.1 56 64 0ms
6 192.168.20.1 56 64 0ms
7 192.168.20.1 56 64 0ms
8 192.168.20.1 56 64 0ms
9 192.168.20.1 56 64 0ms
10 192.168.20.1 56 64 1ms
sent=11 received=11 packet-loss=0% min-rtt=0ms avg-rtt=0ms max-rtt=1ms
[admin@MikroTik] >
```

## 1.2 Wireless Point to Multipoint

### 1. Mengaktifkan Interface Wireless (wlan1)

Buka menu **Wireless** → **WiFi Interface** melalui Winbox. Pilih interface **wlan1**, kemudian klik ikon panah biru untuk mengaktifkan interface tersebut.



### 2. Konfigurasi Wireless pada Router A

Klik dua kali pada interface **wlan1**, lalu masuk ke tab **Wireless** dan atur sebagai berikut:

- Mode: ap bridge
- SSID: PointToMultipoint\_No[Kelompok]\_APP\_Bridge (bebas)

Scanner (Running)

Interface: wlan1

☐ Background Scan

Start  
Stop  
Close  
Connect  
New Window

	Address	SSID	Channel	Signal...	Noise...	Signal...	Radio Name	RouterO...
ARB	CC:2D:E0:98:AA:3D	PointToPo...	2412/20...	-51	-95	44	CC2DE098AA3D	6.42.1
ARB	64:D1:54:FA:E9:69	PointToPo...	2412/20...	-55	-95	40	64D154FAE969	6.42.1
ARB	CC:2D:E0:98:AA:BF	Kelompok...	2412/20...	-29	-95	66	CC2DE098AABF	6.42.1
AP	22:71:27:6E:13:13	Y!	2412/20...	-60	-95	35		
AP	E8:10:98:AB:79:E0	myITS-WiFi	2412/20...	-74	-95	21		
AP	E8:10:98:AB:79:E1	eduroam	2412/20...	-76	-95	19		
AP	E8:10:98:AB:79:E3	myITS-Wi...	2412/20...	-73	-95	22		
AP	18:62:E4:3F:78:C7	SMA3006...	2412/20...	-80	-95	15		
AP	E8:10:98:AB:79:E2		2412/20...	-74	-95	21		
AP	A8:5B:F7:09:D0:43	myITS-Wi...	2437/20...	-77	-95	18		
AP	A8:5B:F7:09:67:71	eduroam	2462/20...	-72	-95	23		
AP	A8:5B:F7:09:67:70	myITS-WiFi	2462/20...	-72	-95	23		
AP	A8:5B:F7:09:67:72		2462/20...	-69	-95	26		
AP	A8:5B:F7:09:67:73	myITS-Wi...	2462/20...	-71	-95	24		
AP	74:AC:B9:03:CC:45	DTE-Rem...	2462/20...	-80	-95	15		

15 items (1 selected)

### 3. Konfigurasi Wireless pada Router B

Klik dua kali interface **wlan1**, lalu masuk ke tab **Wireless** dan ubah:

- Mode: station bridge

Selanjutnya, klik tombol **Scan**, pilih interface **wlan1**, cari SSID dari Router A, lalu klik **Connect**.

Interface <wlan1>

General Wireless HT WDS Nstreme NV2 Advanced Status ...

Mode: station bridge

Band: 2GHz-B/G

Channel Width: 20MHz

Frequency: 2412 MHz

SSID: Kelompok\_15\_PTP

Scan List: default

Wireless Protocol: any

Security Profile: default

☒ Default Authenticate

OK  
Cancel  
Apply  
Disable  
Comment  
Advanced Mode  
Torch  
WPS Accept  
WPS Client  
Setup Repeater  
Scan...  
Freq. Usage...  
Align...  
Sniff...  
Snooper...  
Reset Configuration

### 4. • Konfigurasi Alamat IP untuk Interface wlan1

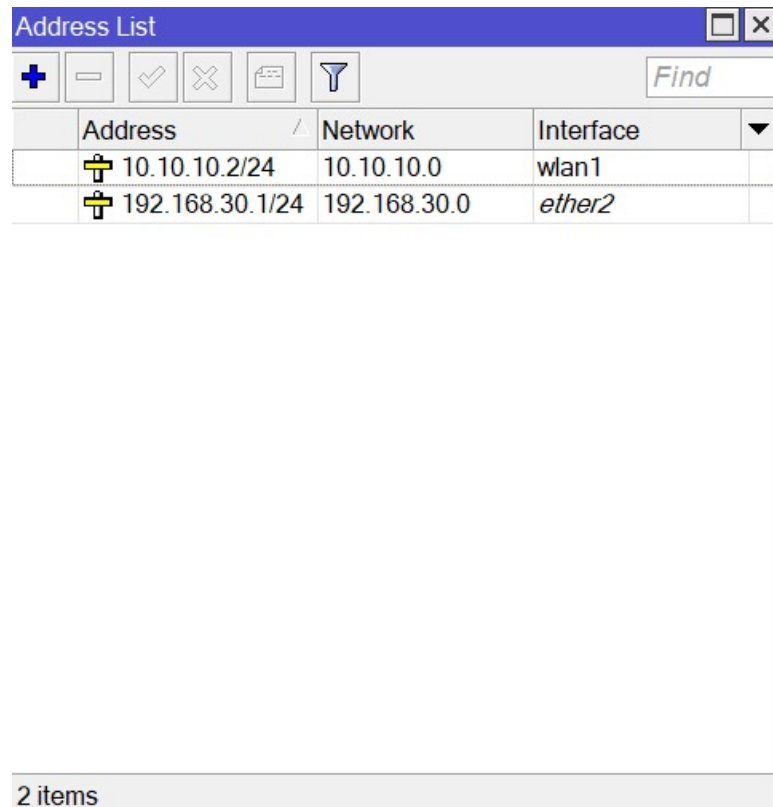
Tambahkan alamat IP pada interface **wlan1**:

- Router A: 10.10.10.1/29
- Router B: 10.10.10.2/29

- **Konfigurasi Alamat IP untuk LAN (ether2)**

Tambahkan IP address pada interface **ether2** sebagai koneksi ke laptop:

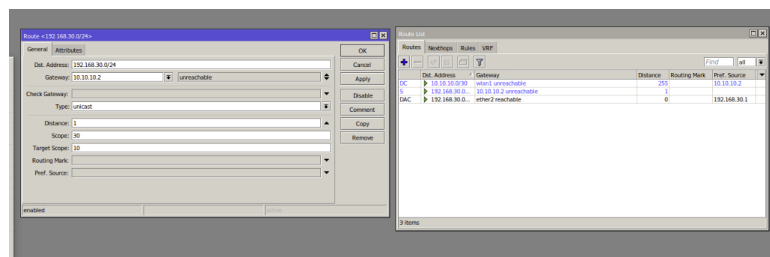
- Router A: 192.168.20.1/24
- Router B: 192.168.30.1/24



## 5. Menambahkan Routing Statis

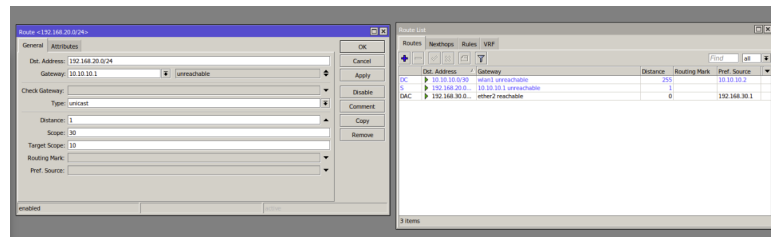
Setelah semua interface mendapatkan IP address, lakukan konfigurasi routing statis sebagai berikut:

- Router A:
  - Destination Address: 192.168.30.0/24
  - Gateway: 10.10.10.2



- Router B:
  - Destination Address: 192.168.20.0/24
  - Gateway: 10.10.10.1





## 6. Uji Koneksi Antar-Router

- Dari Router A: buka terminal dan jalankan perintah ping 10.10.10.2
- Dari Router B: jalankan ping 10.10.10.1

```

Terminal <1>
MikroTik RouterOS 6.42.1 (c) 1999-2018      http://www.mikrotik.com/

[?]          Gives the list of available commands
command [?]  Gives help on the command and list of arguments

[Tab]        Completes the command/word. If the input is ambiguous,
              a second [Tab] gives possible options

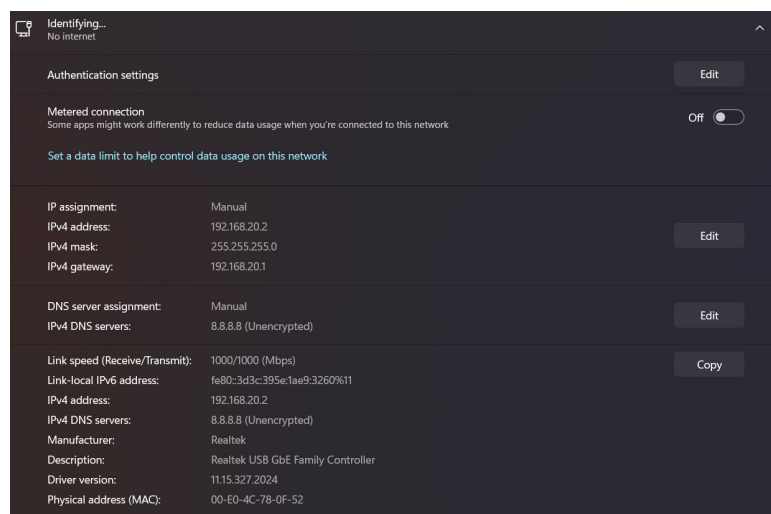
/            Move up to base level
..           Move up one level
/command     Use command at the base level
[admin@MikroTik] > ping 10.10.10.1

SEQ HOST                                SIZE TTL TIME  STATUS
0 10.10.10.1                            56 64 1ms
1 10.10.10.1                            56 64 1ms
2 10.10.10.1                            56 64 0ms
3 10.10.10.1                            56 64 1ms
4 10.10.10.1                            56 64 1ms
5 10.10.10.1                            56 64 1ms
6 10.10.10.1                            56 64 2ms
7 10.10.10.1                            56 64 23ms
8 10.10.10.1                            56 64 0ms
  
```

## 7. Konfigurasi IP Static di Laptop

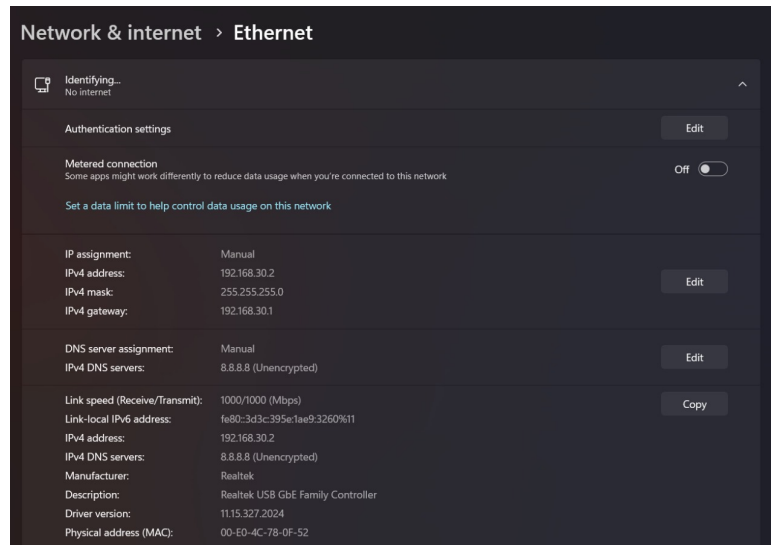
Atur alamat IP secara manual pada laptop yang terhubung ke masing-masing router:

- Laptop A (Router A):
  - IP Address: 192.168.20.2
  - Gateway: 192.168.20.1
  - DNS: 8.8.8.8



- Laptop B (Router B):
  - IP Address: 192.168.30.2

- Gateway: 192.168.30.1
- DNS: 8.8.8.8



## 8. Uji Koneksi Antar-Laptop

Lakukan ping dari Laptop A ke Laptop B. Jika ping berhasil, maka koneksi antar-router dan routing telah dikonfigurasi dengan benar.

```
C:\Users\lenovo>ping 192.168.20.1

Pinging 192.168.20.1 with 32 bytes of data:
Reply from 192.168.20.1: bytes=32 time=2ms TTL=63
Reply from 192.168.20.1: bytes=32 time=2ms TTL=63
Reply from 192.168.20.1: bytes=32 time=2ms TTL=63

Ping statistics for 192.168.20.1:
    Packets: Sent = 3, Received = 3, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 2ms, Maximum = 2ms, Average = 2ms
Control-C
C:\Users\lenovo>ping 192.168.20.3

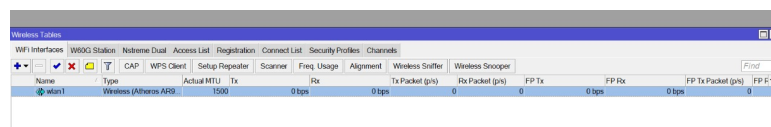
Pinging 192.168.20.3 with 32 bytes of data:
Reply from 192.168.20.3: bytes=32 time=8ms TTL=126
Reply from 192.168.20.3: bytes=32 time=2ms TTL=126
Reply from 192.168.20.3: bytes=32 time=33ms TTL=126

Ping statistics for 192.168.20.3:
    Packets: Sent = 3, Received = 3, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 2ms, Maximum = 33ms, Average = 14ms
Control-C
C:\Users\lenovo>
```

## 1.3 Wireless Bridge

### 1. Mengaktifkan Interface Wireless wlan1

Buka aplikasi Winbox, lalu akses menu **Wireless → WiFi Interface**. Pilih interface **wlan1**, kemudian klik ikon panah biru untuk mengaktifkannya.



### 2. Pengaturan Wireless di Router A

Klik dua kali pada **wlan1**, kemudian masuk ke tab **Wireless**. Atur parameter berikut:

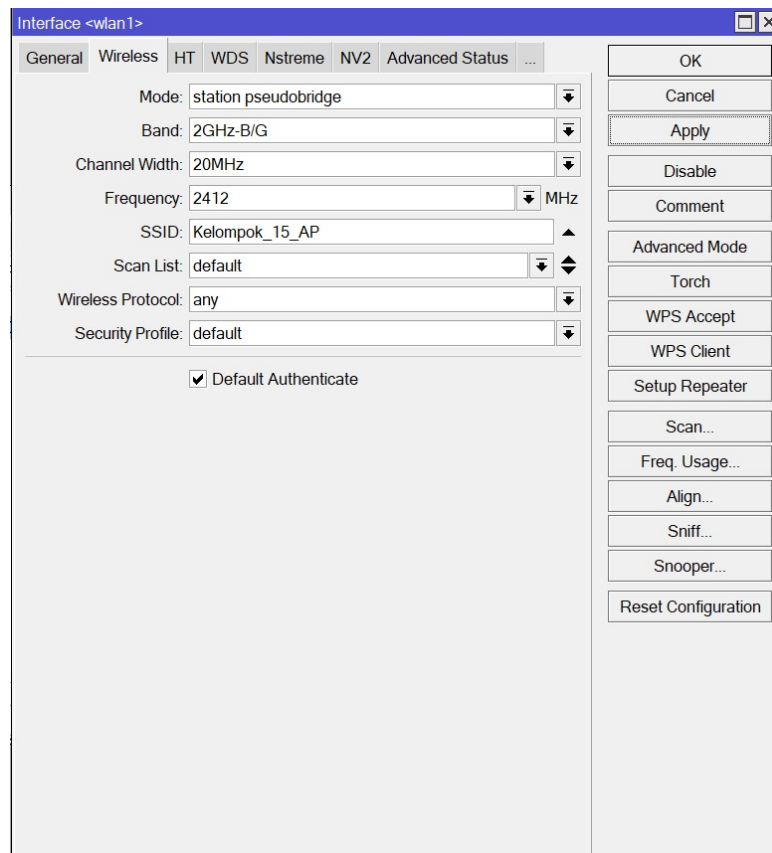
- Mode: bridge
- SSID: WirelessBridge\_No[Kelompok]\_AltText (bebas)

### 3. Pengaturan Wireless di Router B

Pada Router B, klik dua kali **wlan1**, lalu buka tab **Wireless** dan atur:

- Mode: station pseudobridge

Tekan tombol **Scan**, pilih interface **wlan1**, cari jaringan dengan SSID Router A, dan klik **Connect**.



#### 4. Pemberian Alamat IP pada wlan1

Tambahkan alamat IP untuk masing-masing interface **wlan1**:

- Router A: 10.10.10.1/29
- Router B: 10.10.10.2/29

#### Konfigurasi IP untuk LAN (ether2)

Tambahkan alamat IP ke interface **ether2** untuk koneksi ke laptop:

- Router A: 192.168.10.2/24
- Router B: 192.168.10.3/24

Address List			
<div> <span>+</span> <span>-</span> <span>✓</span> <span>✗</span> <span>📄</span> <span>🔍</span> <span>Find</span> </div>			
	Address	Network	Interface
	10.10.10.2/24	10.10.10.0	wlan1
	192.168.30.1/24	192.168.30.0	ether2

2 items

## 5. Membuat Bridge pada Router A dan B

Klik menu **Bridge**, kemudian klik tombol + untuk menambahkan bridge baru (misalnya: bridge1). Setelah itu, masuk ke tab **Ports**, lalu tambahkan **wlan1** dan **ether2** ke dalam bridge yang telah dibuat.

Bridge									
<div> <span>+</span> <span>-</span> <span>✓</span> <span>✗</span> <span>📄</span> <span>🔍</span> <span>Find</span> </div>									
#	Interface	Bridge	Horizon	Priority (bits)	Path Cost	Role	Root Path		
0	#1 wlan1	bridge1		80	10	root port	10		
1	#1 ether2	bridge1		80	10	disabled port			

2 items

Bridge									
<div> <span>+</span> <span>-</span> <span>✓</span> <span>✗</span> <span>📄</span> <span>🔍</span> <span>Find</span> </div>									
#	Name	Type	L2 MTU	Tx	Rx	Tx Packet (pps)	Rx Packet (pps)	FP Tx	FP Rx
0	#1 bridge1	Bridge	1500	560 kbps	560 kbps	1	1	0 kbps	560 kbps

## 6. Uji Koneksi Antar-Router

Buka terminal di masing-masing router untuk melakukan uji koneksi:

- Dari Router A: ping 10.10.10.2
- Dari Router B: ping 10.10.10.1

```
Terminal <2>
MMM   MMM   III   KKK KKK   RRRRRR   OOO   OOO   TTT   III   KKK KKK
MMM   MMM   III   KKK KKK   RRR   RRR   OOOOOO   TTT   III   KKK KKK

MikroTik RouterOS 6.42.1 (c) 1999-2018      http://www.mikrotik.com/

[?]          Gives the list of available commands
command [?]  Gives help on the command and list of arguments

[Tab]        Completes the command/word. If the input is ambiguous,
              a second [Tab] gives possible options

/            Move up to base level
..          Move up one level
/command     Use command at the base level
[admin@MikroTik] > ping 10.10.10.1
  SEQ HOST                                SIZE TTL TIME  STATUS
    0 10.10.10.1                          56  64 0ms
    1 10.10.10.1                          56  64 0ms
    2 10.10.10.1                          56  64 0ms
    3 10.10.10.1                          56  64 0ms
    4 10.10.10.1                          56  64 16ms
    5 10.10.10.1                          56  64 0ms
    6 10.10.10.1                          56  64 1ms
```

## 7. Konfigurasi IP Statis pada Laptop

Atur IP address secara manual pada masing-masing laptop:

- Laptop yang terhubung ke Router A:
  - IP Address: 192.168.10.5
  - Gateway: 192.168.10.2
  - DNS: 8.8.8.8
- Laptop yang terhubung ke Router B:
  - IP Address: 192.168.10.7
  - Gateway: 192.168.10.3
  - DNS: 8.8.8.8

```
Terminal <2>
MMM   MMM   III   KKK KKK   RRRRRR   OOO   OOO   TTT   III   KKK KKK
MMM   MMM   III   KKK KKK   RRR   RRR   OOOOOO   TTT   III   KKK KKK

MikroTik RouterOS 6.42.1 (c) 1999-2018      http://www.mikrotik.com/

[?]          Gives the list of available commands
command [?]  Gives help on the command and list of arguments

[Tab]        Completes the command/word. If the input is ambiguous,
              a second [Tab] gives possible options

/            Move up to base level
..          Move up one level
/command     Use command at the base level
[admin@MikroTik] > ping 10.10.10.1
  SEQ HOST                                SIZE TTL TIME  STATUS
    0 10.10.10.1                          56  64 0ms
    1 10.10.10.1                          56  64 0ms
    2 10.10.10.1                          56  64 0ms
    3 10.10.10.1                          56  64 0ms
    4 10.10.10.1                          56  64 16ms
    5 10.10.10.1                          56  64 0ms
    6 10.10.10.1                          56  64 1ms
```

## 8. Uji Koneksi Antar-Laptop

Lakukan tes ping dari laptop A ke laptop B. Jika koneksi berhasil, maka konfigurasi bridge dan pseudobridge telah berfungsi dengan baik. Pastikan langkah konfigurasi dilakukan pada kedua sisi (Router A dan Router B) secara menyeluruh.

```

C:\Users\lenovo>ping 192.168.20.1

Pinging 192.168.20.1 with 32 bytes of data:
Reply from 192.168.20.1: bytes=32 time=2ms TTL=63
Reply from 192.168.20.1: bytes=32 time=2ms TTL=63
Reply from 192.168.20.1: bytes=32 time=2ms TTL=63

Ping statistics for 192.168.20.1:
    Packets: Sent = 3, Received = 3, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 2ms, Maximum = 2ms, Average = 2ms
Control-C
^C
C:\Users\lenovo>ping 192.168.20.3

Pinging 192.168.20.3 with 32 bytes of data:
Reply from 192.168.20.3: bytes=32 time=8ms TTL=126
Reply from 192.168.20.3: bytes=32 time=2ms TTL=126
Reply from 192.168.20.3: bytes=32 time=33ms TTL=126

Ping statistics for 192.168.20.3:
    Packets: Sent = 3, Received = 3, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 2ms, Maximum = 33ms, Average = 14ms
Control-C
^C
C:\Users\lenovo>

```

## 2 Analisis Hasil Percobaan

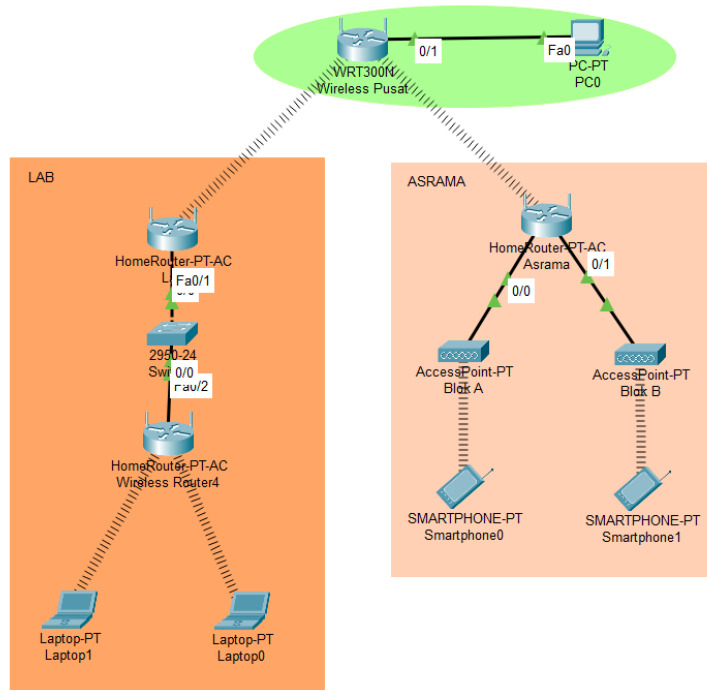
Selama praktikum, konfigurasi jaringan wireless antar-router menggunakan perangkat Mikrotik berhasil dilakukan dengan beberapa variasi mode, yaitu Bridge–Station, AP Bridge–Station Bridge, serta Bridge–Station Pseudobridge. Masing-masing mode memiliki perbedaan dalam cara kerja dan kemampuan bridging. Mode Bridge–Station cocok untuk koneksi dasar antar-router dengan jalur komunikasi satu arah, sedangkan AP Bridge–Station Bridge lebih fleksibel karena memungkinkan jaringan berfungsi seolah berada dalam satu segmen. Mode Station Pseudobridge digunakan sebagai alternatif bridging, meskipun tidak mendukung komunikasi penuh antar-MAC address. Pada setiap router, IP address ditetapkan secara manual baik pada interface wireless (wlan1) maupun pada port LAN (ether2), sehingga jalur komunikasi antara router dan laptop dapat terbentuk dengan baik. Selain itu, pembuatan bridge yang menggabungkan wlan1 dan ether2 berperan penting dalam menyatukan dua interface ke dalam satu jaringan. Routing statis kemudian ditambahkan untuk memastikan masing-masing jaringan lokal di kedua router dapat saling berkomunikasi. Dari hasil uji ping antar-router dan antar-laptop, terlihat bahwa koneksi berjalan lancar tanpa hambatan, menandakan bahwa seluruh konfigurasi telah dilakukan dengan tepat dan sistem bekerja sebagaimana mestinya.

## 3 Hasil Tugas Modul

1. Simulasikan jaringan wireless antara tiga gedung:

- Gedung Pusat
- Gedung Lab
- Gedung Asrama (Hubungkan dua bagian dalam Gedung Asrama (Blok A dan Blok B) menggunakan Wireless Bridge Point-to-Point.)

Menggunakan Point-to-Multipoint (PTMP) di Cisco Packet Tracer.



- PUSAT

Wireless Pusat

Physical Config GUI Attributes

**Setup** Setup Wireless Security Access Restrictions Applications & Gaming Admin

Basic Setup DDNS MAC Address Clone

**Internet Setup**

Internet Connection type: Automatic Configuration - DHCP

Optional Settings (required by some internet service providers):

Host Name:

Domain Name:

MTU:  Size: 1500

**Network Setup**

Router IP: IP Address: 192 . 168 . 0 . 1 Subnet Mask: 255.255.255.0

DHCP Server Settings: DHCP Server: ☒ Enabled ☐ Disabled

Start IP Address: 192.168.0.100

Maximum number of Users: 50

**Basic Wireless Settings**

Network Mode: Mixed

Network Name (SSID): Pusat

Radio Band: Auto

Wide Channel: Auto

Standard Channel: 1 - 2.412GHz

SSID Broadcast: ☒ Enabled ☐ Disabled

Wireless Security

Security Mode:

WPA2 Personal

Encryption:

AES

Passphrase:

ilostitch

Key Renewal:

3600

seconds

- ASRAMA

Asrama

Physical Config GUI Attributes

Wireless Tri-Band Home Router

Wireless

Setup

Wireless

Security

Access Restrictions

Applications & Gaming

Administration

Basic Wireless Settings

Wireless Security

Guest Network

Wireless MAC Filter

Wireless Security

Wireless Media Bridge

Network Name (SSID):

Pusat

Security Mode:

WPA2 Personal

Encryption:

AES

Passphrase:

ilostitch

Key Renewal:

3600

seconds

Blok A

Physical Config Attributes

GLOBAL

Settings

INTERFACE

Port 0

Port 1

Port 1

Port Status

On

SSID

Blok A

2.4 GHz Channel

6

Coverage Range (meters)

140.00

Authentication

Disabled

WEP

WPA2-PSK

WEP Key

PSK Pass Phrase

asrama321

User ID

Password

Encryption Type

AES

Blok B

Physical Config Attributes

GLOBAL

Settings

INTERFACE

Port 0

Port 1

Port 1

Port Status

On

SSID

Blok B

2.4 GHz Channel

6

Coverage Range (meters)

140.00

Authentication

Disabled

WEP

WPA2-PSK

WEP Key

PSK Pass Phrase

asrama123

User ID

Password

Encryption Type

AES



Smartphone0

Physical **Config** Desktop Programming Attributes

**GLOBAL**

Settings

Algorithm Settings

**INTERFACE**

Wireless0

3G/4G Cell1

Bluetooth

Wireless0

Port Status ☒ On

Bandwidth 24 Mbps

MAC Address 0002.4A7C.8AA2

SSID Blok A

Authentication

☐ Disabled ☐ WEP ☒ WPA2-PSK

WEP Key

PSK Pass Phrase asrama321

User ID

Password

Method: MD5

User Name

Password

Encryption Type AES

IP Configuration

☒ DHCP ☐ Static

IPv4 Address 192.168.0.104

Subnet Mask 255.255.255.0

IPv6 Configuration

☐ Automatic ☒ Static

IPv6 Address

Link Local Address: FE80::202:4AFF:FE7C:8AA2

Smartphone1

Physical **Config** Desktop Programming Attributes

**GLOBAL**

Settings

Algorithm Settings

**INTERFACE**

Wireless0

3G/4G Cell1

Bluetooth

Wireless0

Port Status ☒ On

Bandwidth 48 Mbps

MAC Address 0030.F272.66A5

SSID Blok B

Authentication

☐ Disabled ☐ WEP ☒ WPA2-PSK

WEP Key

PSK Pass Phrase asrama123

User ID

Password

Method: MD5

User Name

Password

Encryption Type AES

IP Configuration

☒ DHCP ☐ Static

IPv4 Address 192.168.0.103

Subnet Mask 255.255.255.0

IPv6 Configuration

☐ Automatic ☒ Static

IPv6 Address

Link Local Address: FE80::230:F2FF:FE72:66A5

- LAB

Lab

Physical **Config** GUI Attributes

Wireless Tri-Band Home Router

**Wireless** Setup Wireless Security Access Restrictions Applications & Gaming Administration

Basic Wireless Settings Wireless Security Guest Network Wireless MAC Filter

**Wireless Security**

**Wireless Media Bridge**

Network Name (SSID): Pusat

Security Mode: WPA2 Personal

Encryption: AES

Passphrase: ilostitch

Key Renewal: 3600 seconds

Wireless Router4

Physical Config **GUI** Attributes

**Setup** Setup Wireless Security Access Restrictions Applications & Gaming Administration

**Internet Setup**

Internet Connection type: Automatic Configuration - DHCP

Optional Settings (required by some internet service providers):

Host Name:

Domain Name:

MTU:  Size: 1500

**Network Setup**

Router IP: IP Address: 192 . 168 . 0 . 1 Subnet Mask: 255.255.255.0

DHCP Server Settings: DHCP Server: ☒ Enabled ☐ Disabled DHCP Reservation

Start IP Address: 192.168.0.100

Maximum number of Users: 50

Wireless Router4

Physical Config **GUI** Attributes

Wireless Tri-Band Home Router

**Wireless** Setup Wireless Security Access Restrictions Applications & Gaming Administration

**Basic Wireless Settings**

2.4 GHz

Network Mode: Auto

Network Name (SSID): LAB

SSID Broadcast: ☒ Enabled ☐ Disabled

Standard Channel: 1 - 2.412GHz

Channel Bandwidth: Auto

Laptop1

Physical Config **Desktop** Programming Attributes

**GLOBAL** Settings Algorithm Settings **INTERFACE** Wireless0 Bluetooth

**Wireless0**

Port Status: ☒ On

Bandwidth: 300 Mbps

MAC Address: 0000.0C38.C758

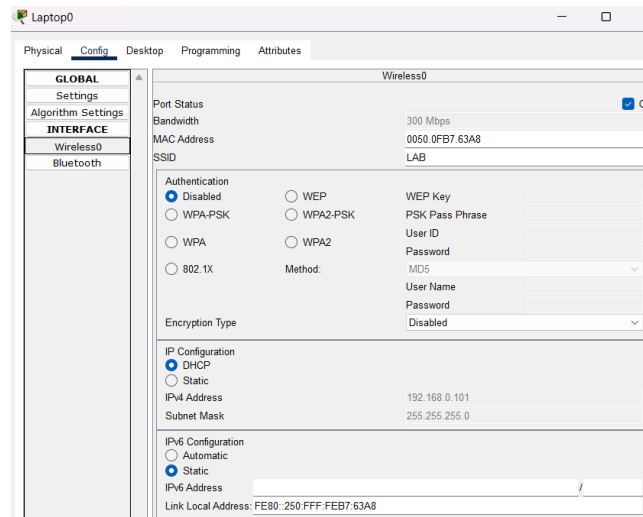
SSID: LAB

Authentication: ☒ Disabled ☐ WEP ☐ WPA-PSK ☐ WPA2-PSK ☐ WPA ☐ WPA2 ☐ 802.1X Method: WEP Key PSK Pass Phrase User ID Password MD5 User Name Password Disabled

Encryption Type: Disabled

IP Configuration: ☒ DHCP ☐ Static IPv4 Address: 192.168.0.100 Subnet Mask: 255.255.255.0

IPv6 Configuration: ☐ Automatic ☒ Static IPv6 Address:  Link Local Address: FE80::200:CFF:FE38:C758

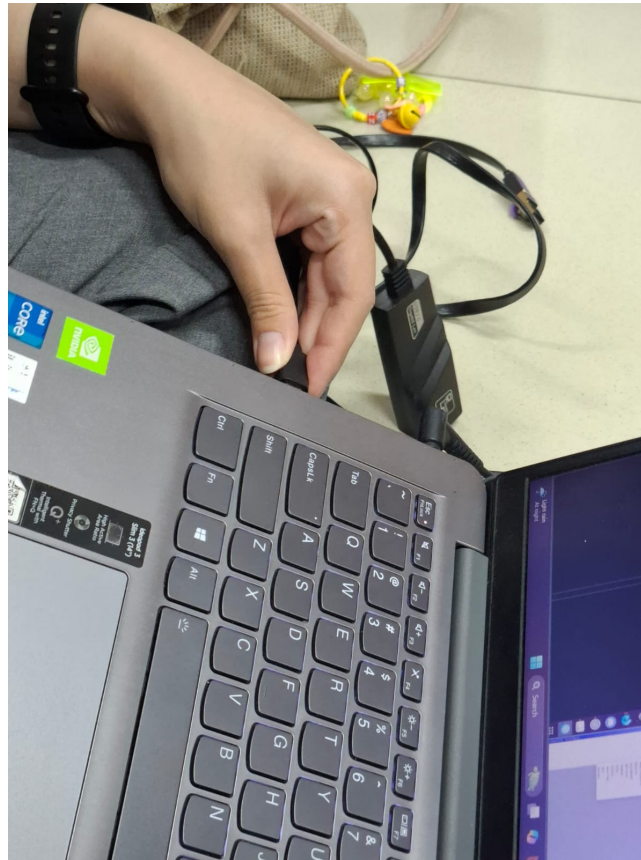


## 4 Kesimpulan

Berdasarkan hasil percobaan, dapat disimpulkan bahwa perangkat Mikrotik sangat fleksibel dalam membangun koneksi jaringan wireless antar-router. Penggunaan mode wireless yang tepat, seperti Bridge, Station, maupun Station Bridge, sangat menentukan jenis dan fleksibilitas koneksi antar-router yang diinginkan. Konfigurasi IP statis, penambahan bridge, dan penerapan routing statis menjadi komponen penting untuk memastikan komunikasi antar jaringan berjalan dengan baik. Praktikum ini memberikan pemahaman menyeluruh tentang bagaimana membangun koneksi point-to-point maupun point-to-multipoint secara efisien, serta pentingnya memahami topologi jaringan dan pemetaan IP untuk menghindari konflik dan kegagalan koneksi. Dengan konfigurasi yang benar, jaringan dapat dibangun secara stabil dan dapat mendukung komunikasi data antar perangkat dengan lancar.

## 5 Lampiran

### 5.1 Dokumentasi saat praktikum



**Gambar 1:** Dokumentasi Telah Melakukan Praktikum