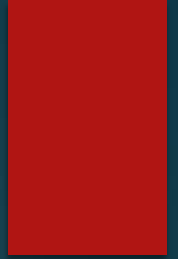


Teknologi Antarjaringan

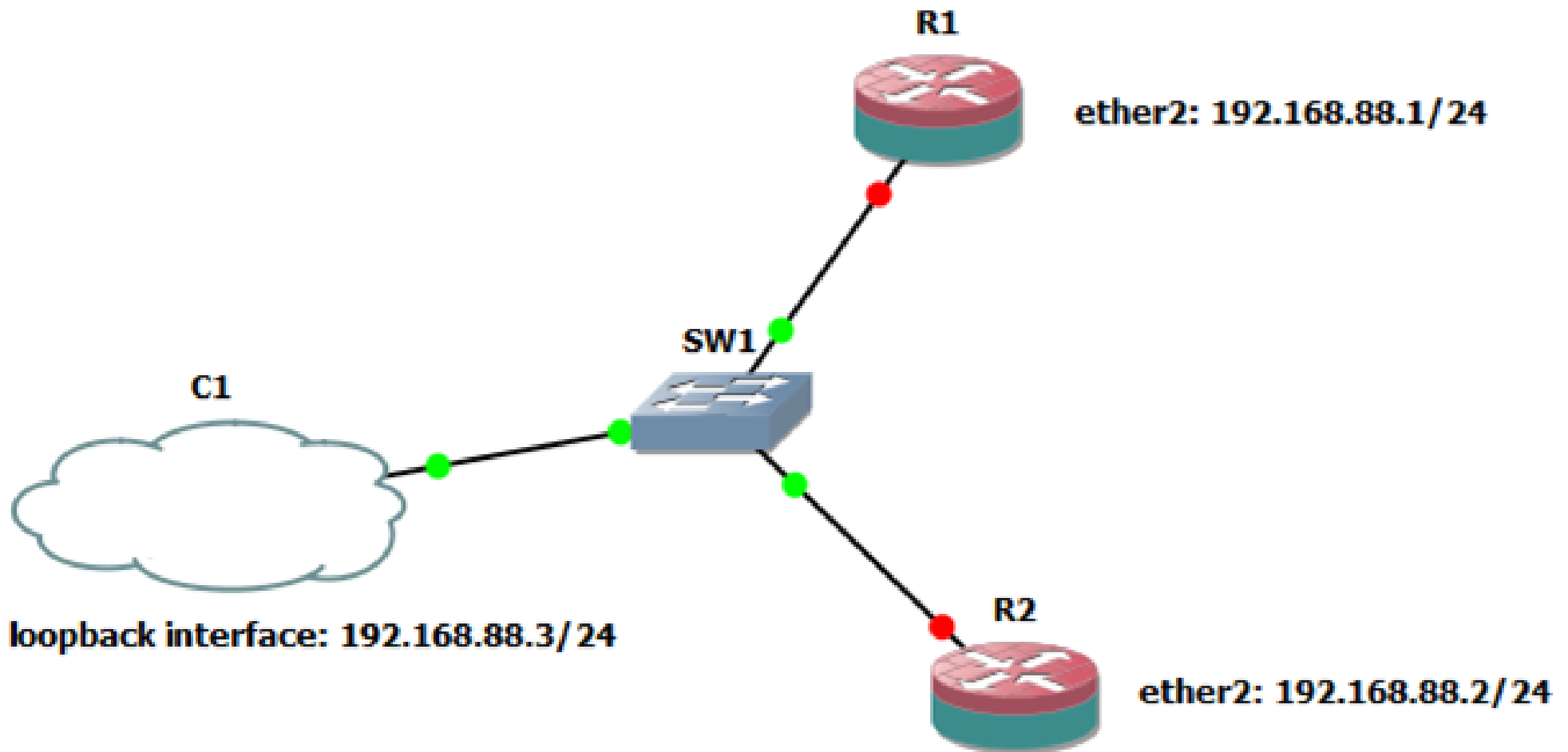


- ▶ Jurusan Teknik Informatika
- ▶ Fakultas Teknologi Informasi
- ▶ Institut Teknologi Sepuluh Nopember

Outline

- Koneksi Mikrotik di GNS3 dengan Winbox
- Topologi jaringan router RIP
- Konfigurasi alamat IP
- Konfigurasi protokol RIP
- ping dan traceroute test

Winbox → Mikrotik GNS3



Konfigurasi Loopback Interface pada Laptop

- Loopback interface untuk koneksi ke Mikrotik yang berada di simulator GNS3
- Langkah-langkah untuk menambah loopback interface:

–Buka cmd

–Ketikkan perintah `hdwwiz.exe`

–Muncul jendela Add New Hardware Wizard

–Ikuti instruksi yang ada

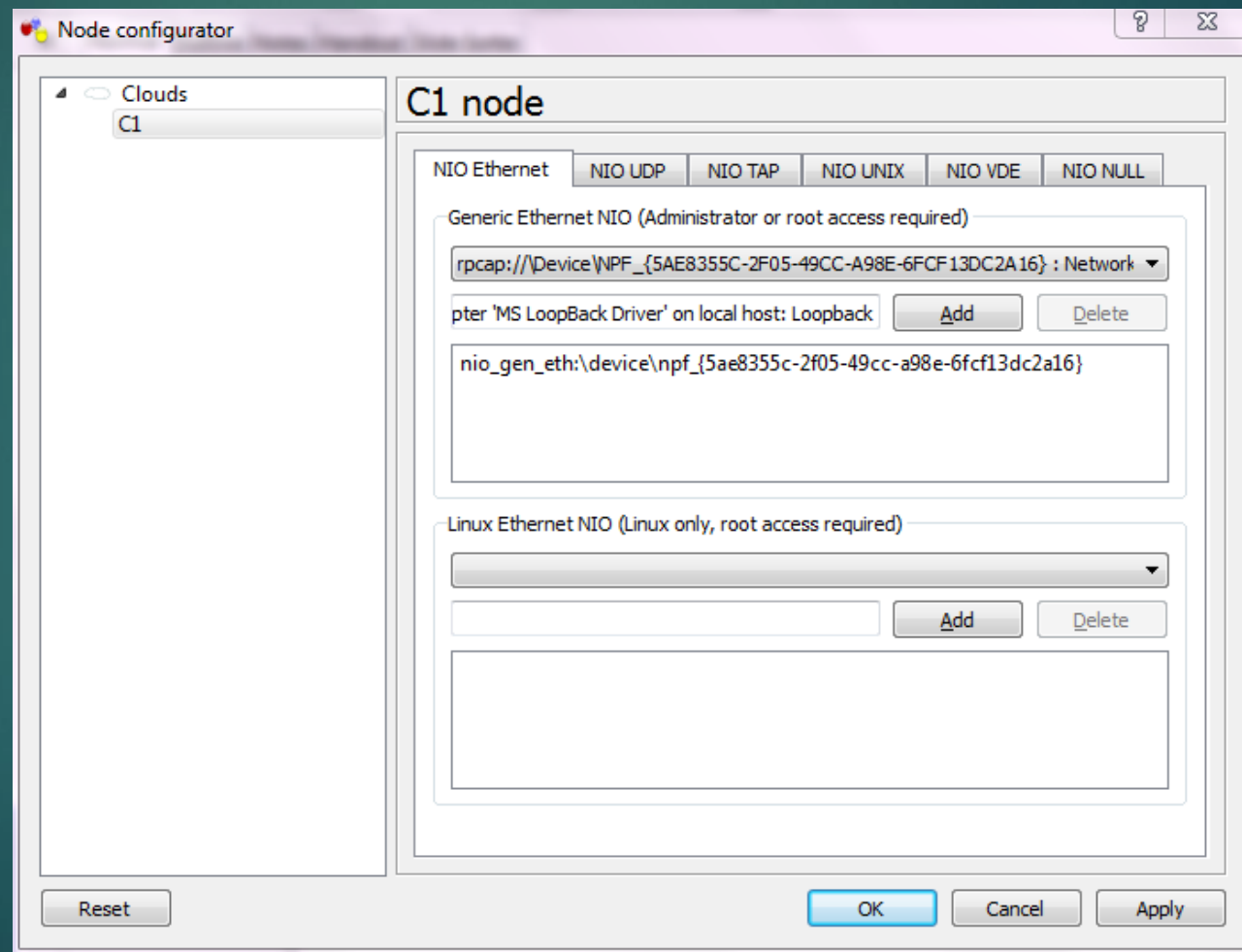
–Beri alamat IP `192.168.88.3/24`

Menambahkan Loopback ke Cloud di

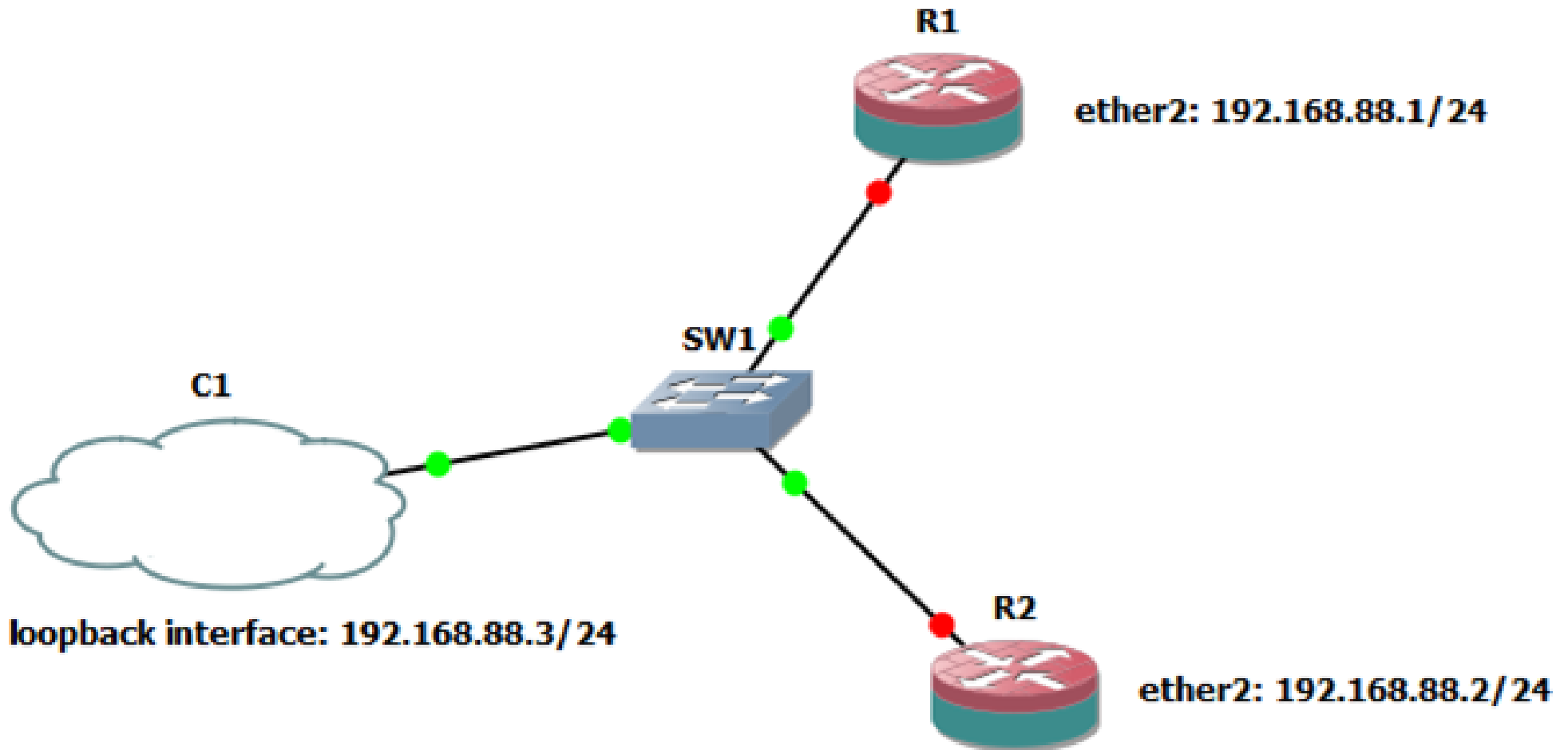
GNS3 Jalankan GNS3 dengan hak akses administrator

- Drag-n-drop cloud ke layar kerja GNS3
- Klik kanan, Configure
- Pilih loopback interface, klik Add, dan OK

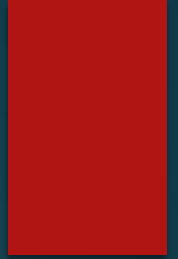
Menambahkan Loopback ke Cloud di GNS3



Winbox → Mikrotik GNS3



Konfigurasi R1



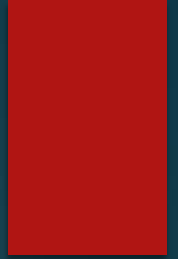
▶ R1

- ▶ /ip address
- ▶ add interface=ether2 address=192.168.88.1/24

▶ R2

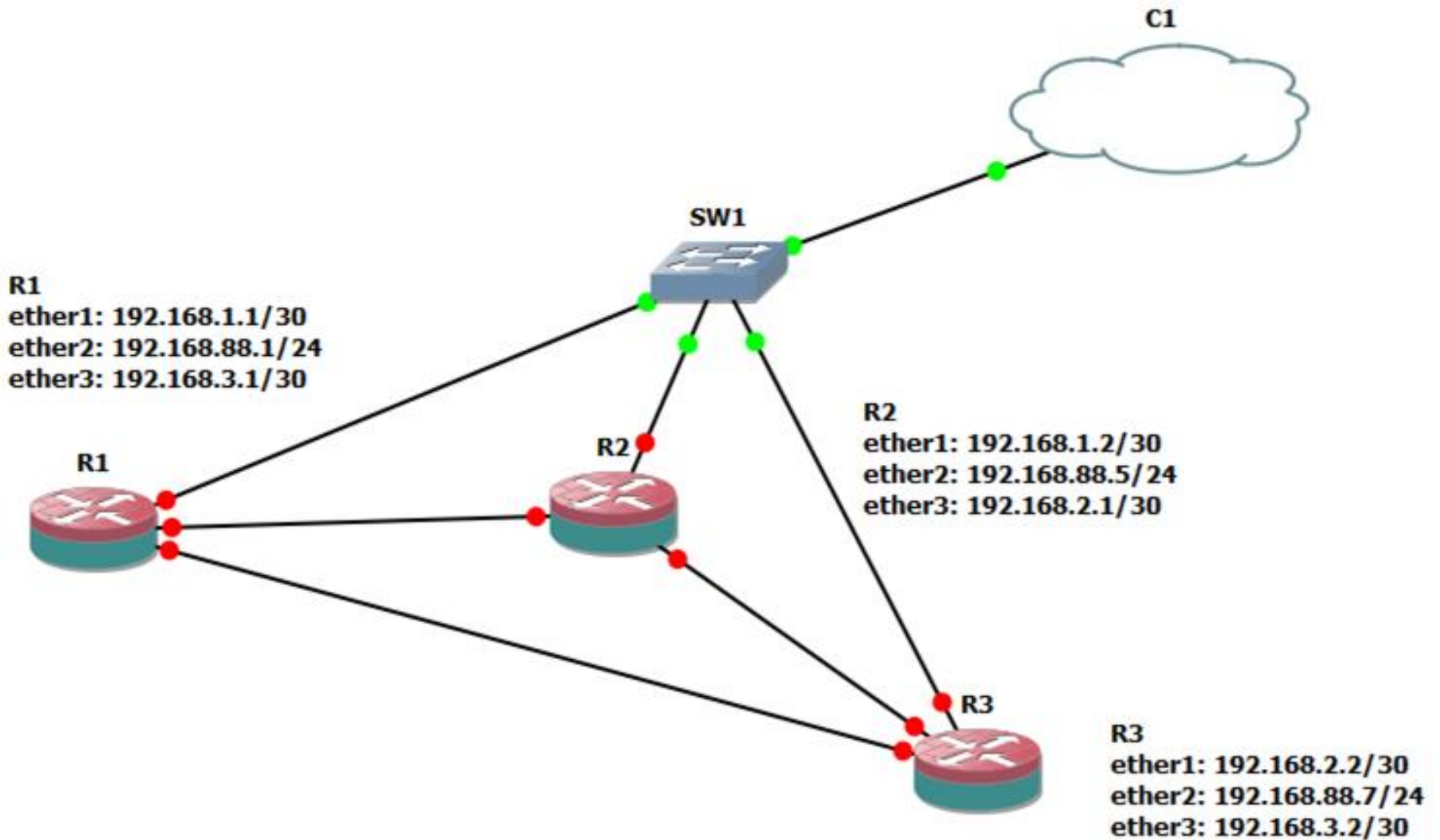
- ▶ /ip address
- ▶ add interface=ether2 address=192.168.88.2/24

Akses dengan Winbox

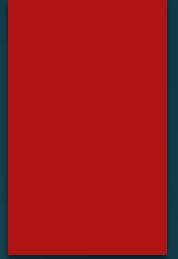


- Buka winbox
- Ketikkan alamat IP R1 dan klik Connect
- Untuk koneksi ke R2, buka satu winbox lagi
- Ketikkan alamat IP R2 dan klik Connect
- Sekarang terdapat dua winbox untuk masing-masing router

Topologi RIP



Konfigurasi Alamat IP



- Login ke winbox
- Pilih menu IP → Addresses
- Pilih tombol “+” di pojok kiri atas
- Tambahkan IP address yang telah ditentukan beserta netmask
- Pilih interface yang diset
- Klik OK

Konfigurasi Alamat IP R1

New Address

Address: 192.168.1.1/30

Network:

Interface: ether1

OK

Cancel

Apply

Disable







Comment




Copy

Remove

enabled

Address List

      Find

	Address	Network	Interface
	192.168.1.1/30	192.168.1.0	ether1
	192.168.3.1/30	192.168.3.0	ether3
	192.168.88.1/24	192.168.88.0	ether2

3 items

Konfigurasi Alamat IP R2

New Address

Address: 192.168.1.2/30

Network:

Interface: ether1

OK

Cancel

Apply

Disable







Comment




Copy

Remove

enabled

Address List

      Find

	Address	Network	Interface
	192.168.1.2/30	192.168.1.0	ether1
	192.168.2.1/30	192.168.2.0	ether3
	192.168.88.5/24	192.168.88.0	ether2

3 items

Konfigurasi Alamat IP R3

New Address

Address:

Network:

Interface:

enabled

Address List

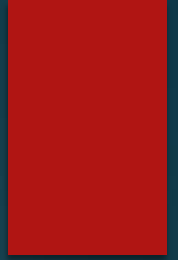
	Address	Network	Interface
	192.168.2.2/30	192.168.2.0	ether1
	192.168.3.2/30	192.168.3.0	ether3
	192.168.88.7/24	192.168.88.0	ether2

3 items

ping dan traceroute test

- Pilih menu Tools → ping
- Pilih menu Tools → traceroute
- R1 → R2
- R1 → R3
- R2 → R3

Konfigurasi RIP Interface



- Pilih menu Routing → RIP
- Pada tab Interface, klik tombol “+” di pojok kanan atas untuk menambah RIP interface
- Pilih interface all
- Receive dan send v2
- Klik OK

Konfigurasi RIP Network

- Pilih menu Routing → RIP
- Pada tab Networks, klik tombol “+” di pojok kanan atas
- Ketikkan network ID dan netmask pada masing-masing interface pada router
- Klik OK

Konfigurasi RIP R1

New RIP Interface

Interface:

Receive:

Send:

Authentication:

Authentication Key:

Key Chain:

☐ Passive

In Prefix List:

Out Prefix List:

Tx Updates:

Rx Updates:

Bad Packets:

Bad Routes:

☐ enabled ☐ passive

OK Cancel Apply Disable Copy Remove

RIP

Interfaces Networks Keys Neighbours Routes

RIP Settings

Interface	Receive	Send	Authentic...
all	v2	v2	none

New RIP Network

Address:

OK Cancel Apply Disable Copy Remove

☐ enabled ☐

RIP

Interfaces Networks Keys Neighbours Routes

Address
192.168.1.0/30
192.168.3.0/30

Konfigurasi RIP R2

New RIP Interface

Interface:

Receive:

Send:

Authentication:

Authentication Key:

Key Chain:

☐ Passive

In Prefix List:

Out Prefix List:

Tx Updates:

Rx Updates:

Bad Packets:

Bad Routes:

☐ enabled ☐ passive

OK Cancel Apply Disable Copy Remove

RIP

Interfaces Networks Keys Neighbours Routes

+ - ✓ ✗ ⚙ RIP Settings

Interface	Receive	Send	Authentic...
all	v2	v2	none

New RIP Network

Address:

OK Cancel Apply Disable Copy Remove

☐ enabled ☐

RIP

Interfaces Networks Keys Neighbours Routes

+ - ✓ ✗ ⚙

Address
192.168.1.0/30
192.168.2.0/30

Konfigurasi RIP R3

New RIP Interface

Interface:

Receive:

Send:

Authentication:

Authentication Key:

Key Chain:

☐ Passive

In Prefix List:

Out Prefix List:

Tx Updates:

Rx Updates:

Bad Packets:

Bad Routes:

☐ enabled ☐ passive

OK Cancel Apply Disable Copy Remove

RIP

Interfaces Networks Keys Neighbours Routes

RIP Settings

Interface	Receive	Send	Authentic...
all	v2	v2	none

New RIP Network

Address:

OK Cancel Apply Disable Copy Remove

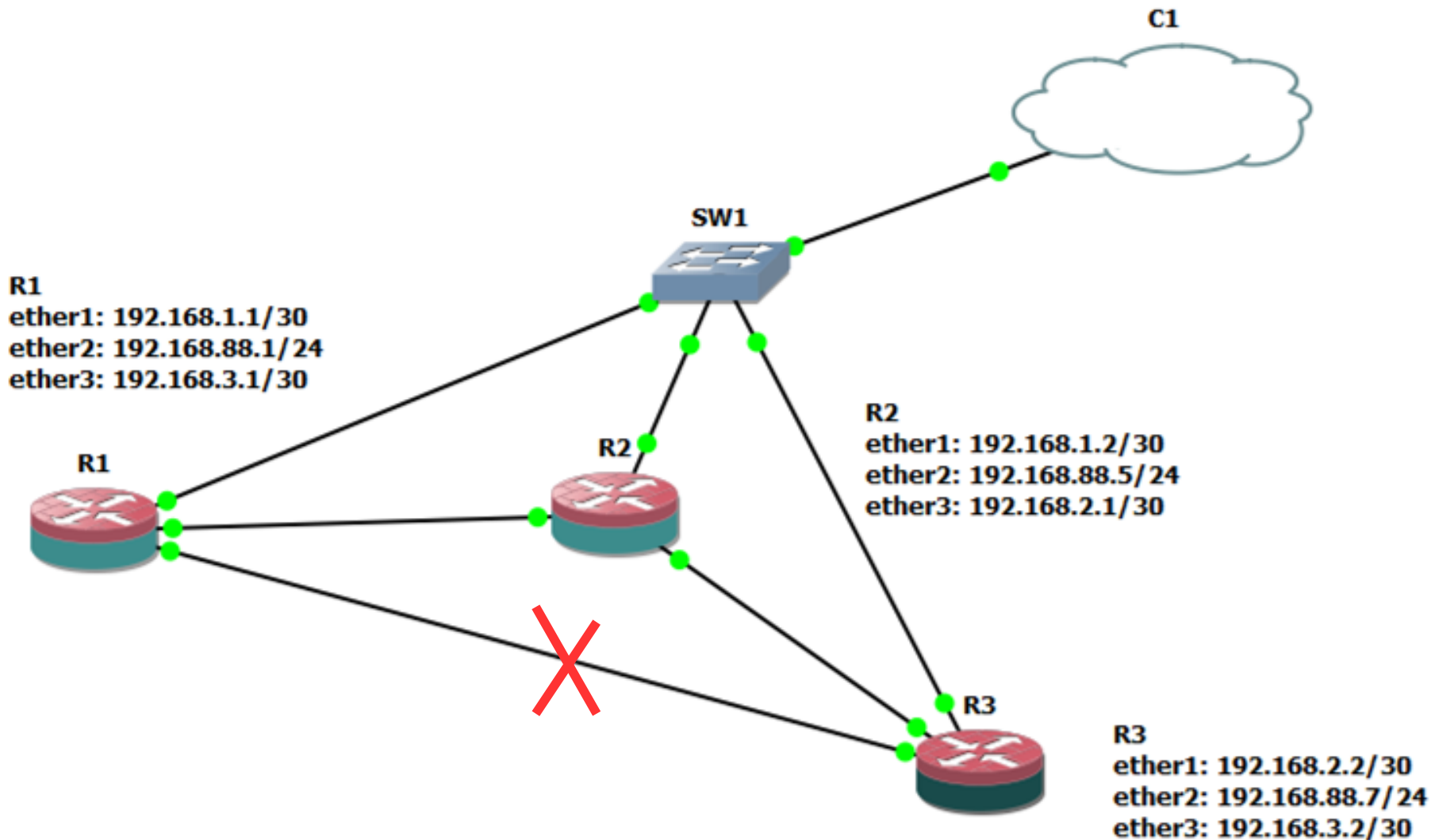
☐ enabled ☐ passive

RIP

Interfaces Networks Keys Neighbours Routes

Address
192.168.2.0/30
192.168.3.0/30

ping dan traceroute test



ping dan traceroute test

- R1 → R2
- R1 → R3
- R2 → R3
- Matikan (disable) interface dari R3 ke R1
- Cek apakah masih bisa ping dan cek aliran paket dengan traceroute

–Jika masih berhasil melakukan ping/traceroute berarti protokol RIP telah berjalan dengan baik