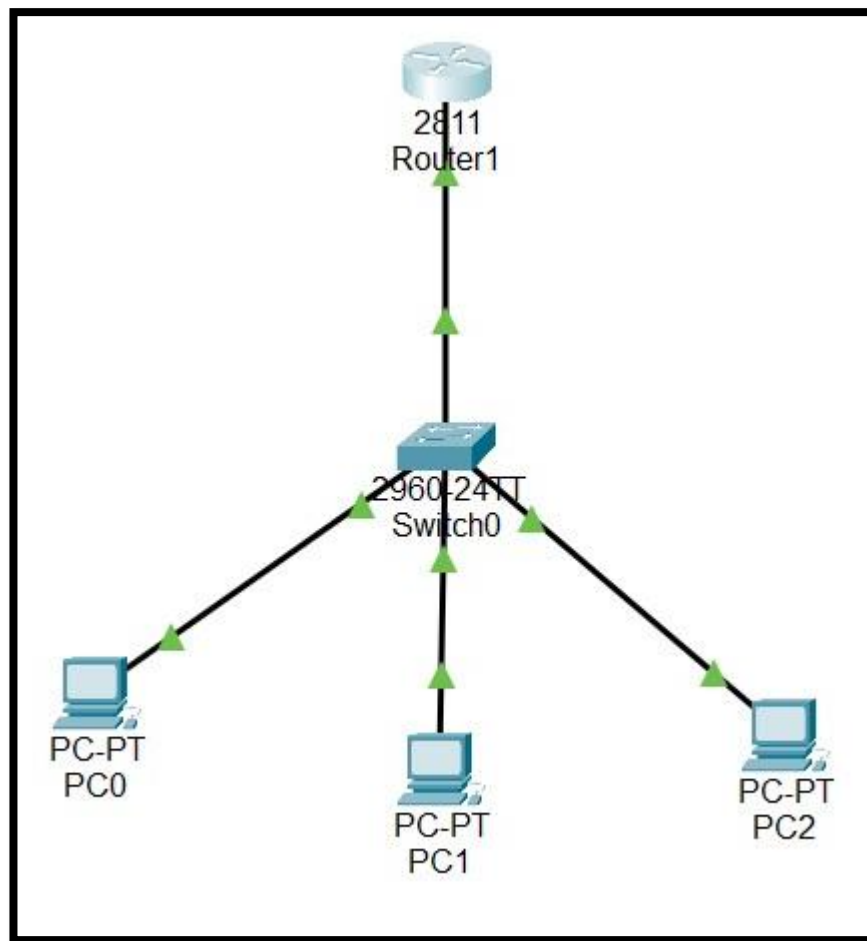


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MK : PRAKTIKUM JARKOM

1. Topologi jaringan DHCP



1. Melihat Daftar IP dari Client

NO	IP ADDRESS	MAC ADDRESS	LEASE EXPIRATION	TYPE
1	192.168.1.21	00D0.FF27.2986	-	Automatic
2	192.168.1.22	0001.42AC.C622	-	Automatic
3	192.168.1.23	0060.2FGA.18AD	-	Automatic

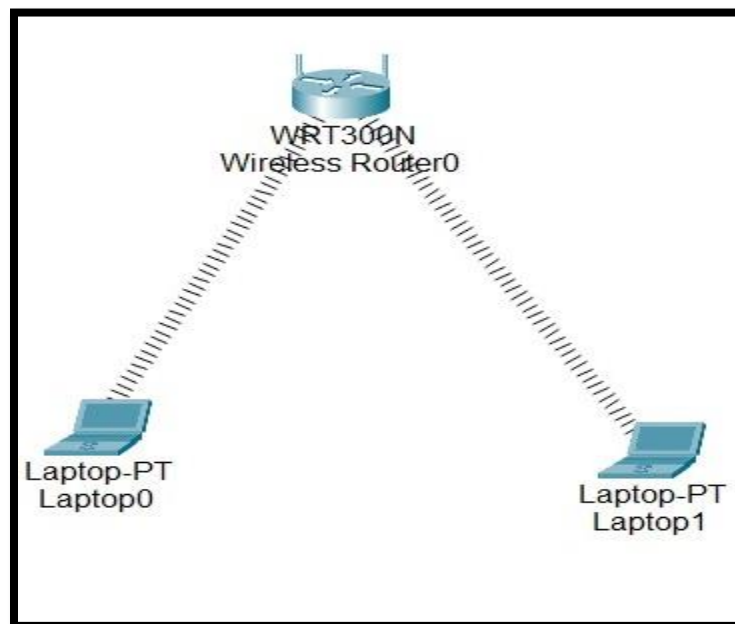
2. IP pada Client/PC

No	Client	IP address	Netmask	Gateway	Dns
1	PC0	192.168.1.21	255.255.255.0	192.168.1.1	192.168.1.1
2	PC1	192.168.1.22	255.255.255.0	192.168.1.1	192.168.1.1
3	PC2	192.168.1.23	255.255.255.0	192.168.1.1	192.168.1.1

3. Daftar IP Client

No	Sumber	Hasil	Tujuan	Hasil
		Ya / Tidak		Ya / Tidak
1	PC0	Ya	PC1	Ya
		Ya	PC2	Ya
2	PC1	Ya	PC0	Ya
		Ya	PC2	Ya
3	PC2	Ya	PC0	Ya
		Ya	PC1	Ya

1. Topologi jaringan Wireless



2. Konfigurasi Access Point

- Untuk mengkonfigurasi access point, klik Wireless Router yang sudah dipasang.
- Pilih tab/menu GUI
- Masukkan IP Address dengan 192.168.0.1
- Serta Subnet Mask dengan 255.255.255.0

The screenshot shows the 'Setup' page of a 'Wireless-N Broadband Router'. The 'Setup' tab is active, with sub-tabs for 'Basic Setup', 'Wireless', 'Security', 'Access Restrictions', 'Applications & Gaming', and 'Administration'. The 'Internet Setup' section shows 'Automatic Configuration - DHCP' selected. The 'Network Setup' section shows the 'Router IP' as 192.168.0.1 and the 'Subnet Mask' as 255.255.255.0.

- Aktifkan DHCP Server, menjadi Enabled
- Mulai IP Address, dan IP DHCP dimulai dari 192.168.0.100
- Maximum number of Users (jumlah maksimum dari IP DHCP)
- Lalu simpan pengaturan (Save Settings)

The screenshot shows the 'DHCP Server Settings' page. The 'DHCP Server' is set to 'Enabled'. The 'Start IP Address' is 192.168.0.100, 'Maximum number of Users' is 50, and 'IP Address Range' is 192.168.0.100 - 149. The 'Client Lease Time' is 0 minutes. Static DNS and WINS settings are all set to 0.

- Pilih tab/menu Wireless -> Basic Wireless Settings
- Buatlah nama SSID dengan LabJarkom
- Lalu simpan pengaturan (Save Settings)

The screenshot shows the 'Basic Wireless Settings' page of a 'Wireless-N Broadband Router'. The top navigation bar includes 'Wireless', 'Setup', 'Wireless', 'Security', 'Access Restrictions', 'Applications & Gaming', and 'Administration'. Below this, a sub-menu shows 'Basic Wireless Settings', 'Wireless Security', 'Guest Network', 'Wireless MAC Filter', and 'Advanced Wireless'. The left sidebar has 'Basic Wireless Settings' selected. The main content area contains the following settings:

Network Mode:	Mixed
Network Name (SSID):	LabJarkom
Radio Band:	Auto
Wide Channel:	Auto
Standard Channel:	1 - 2.412GHz
SSID Broadcast:	<input checked="" type="radio"/> Enabled <input type="radio"/> Disabled

A 'Help...' link is visible on the right side of the page.

- Tekan tab/menu Wireless -> Wireless Security
- Lalu pada Security Mode akan menggunakan WPA2 Personal
- Dengan Encryption AES
- Serta Passphrase 12345678
- Lalu simpan pengaturan (Save Settings)

The screenshot shows the 'Wireless Security' page of the same router. The top navigation bar and sub-menu are identical to the previous screenshot. The left sidebar now has 'Wireless Security' selected. The main content area contains the following settings:

Security Mode:	WPA2 Personal
Encryption:	AES
Passphrase:	12345678
Key Renewal:	3600 seconds

3. Konfigurasi Client

Konfigurasi Laptop PC0

- Konfigurasi Laptop PC pada tab Config
- SSID = LabJarkom
- Authentication = WPA2-PSK
- Pass Phrase = 12345678

Physical **Config** Desktop Programming Attributes

GLOBAL
Settings
Algorithm Settings
INTERFACE
Wireless0
3G/4G Cell1
Bluetooth

Wireless0

Port Status ☒ On
Bandwidth 300 Mbps
MAC Address 0030.F241.421B
SSID Default

Authentication
☐ Disabled ☐ WEP
☐ WPA-PSK ☒ WPA2-PSK
☐ WPA ☐ WPA2
☐ 802.1X Method:
Encryption Type

WEP Key
PSK Pass Phrase 12345678
User ID
Password
MD5
User Name
Password
AES

- Pada IP Configuration memakai DHCP
- Nomor IP akan ditampilkan jika Laptop terhubung dan DHCP Server aktif

IP Configuration
☒ DHCP
☐ Static
IPv4 Address 192.168.0.101
Subnet Mask 255.255.255.0

IPv6 Configuration
☒ Automatic
☐ Static
IPv6 Address
Link Local Address: FE80::230:F2FF:FEA5:4281

Konfigurasi Laptop PC1

- Konfigurasi Laptop PC pada tab Config
- SSID = LabJarkom
- Authentication = WPA2-PSK
- Pass Phrase = 12345678

Physical **Config** Desktop Programming Attributes

GLOBAL

- Settings
- Algorithm Settings

INTERFACE

- Wireless0**
- 3G/4G Cell1
- Bluetooth

Wireless0

Port Status ☒ On

Bandwidth 300 Mbps

MAC Address 000B.BE62.3E35

SSID Default

Authentication

☐ Disabled ☐ WEP ☒ WPA2-PSK ☐ WPA ☐ 802.1X

Method: ☐ WPA2

WEP Key

PSK Pass Phrase 12345678

User ID

Password MD5

User Name

Password AES

Encryption Type

- IP menggunakan DHCP
- Nomor IP akan ditampilkan jika Laptop terhubung dan DHCP Server aktif

IP Configuration

☒ DHCP ☐ Static

IPv4 Address 192.168.0.102

Subnet Mask 255.255.255.0

IPv6 Configuration

☒ Automatic ☐ Static

IPv6 Address /

Link Local Address: FE80::201:43FF:FEA5:ED0D

4. Pengujian PING

- Di Laptop, pilih tab/menu Desktop -> Command Prompt
- Jalankan perintah Ping ke IP Access Point 192.168.0.1
- Ping IP Laptop PC0 Ke Laptop PC1
- Lakukan juga pada Laptop PC1 ke LaptopPC0

```
ping 192.168.0.1
```

```
Pinging 192.168.0.1 with 32 bytes of data:
```

```
Reply from 192.168.0.1: bytes=32 time=92ms TTL=255  
Reply from 192.168.0.1: bytes=32 time=46ms TTL=255  
Reply from 192.168.0.1: bytes=32 time=31ms TTL=255  
Reply from 192.168.0.1: bytes=32 time=63ms TTL=255
```

```
Ping statistics for 192.168.0.1:
```

```
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),  
Approximate round trip times in milli-seconds:  
    Minimum = 31ms, Maximum = 92ms, Average = 58ms
```

```
C:\>ping 192.168.0.101
```

```
Pinging 192.168.0.101 with 32 bytes of data:
```

```
Reply from 192.168.0.101: bytes=32 time=2ms TTL=128  
Reply from 192.168.0.101: bytes=32 time=42ms TTL=128  
Reply from 192.168.0.101: bytes=32 time=4ms TTL=128  
Reply from 192.168.0.101: bytes=32 time=43ms TTL=128
```

```
Ping statistics for 192.168.0.101:
```

```
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),  
Approximate round trip times in milli-seconds:  
    Minimum = 2ms, Maximum = 43ms, Average = 22ms
```

Cisco Packet Tracer PC Command Line 1.0

C:\>

PING 192.168.0.1

Pinging 192.168.0.1 with 32 bytes of data:

Reply from 192.168.0.1: bytes=32 time=166ms TTL=255

Reply from 192.168.0.1: bytes=32 time=37ms TTL=255

Reply from 192.168.0.1: bytes=32 time=46ms TTL=255

Reply from 192.168.0.1: bytes=32 time=14ms TTL=255

Ping statistics for 192.168.0.1:

Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),

Approximate round trip times in milli-seconds:

Minimum = 14ms, Maximum = 166ms, Average = 65ms

C:\>PING 192.168.0.102

Pinging 192.168.0.102 with 32 bytes of data:

Reply from 192.168.0.102: bytes=32 time<1ms TTL=128

Reply from 192.168.0.102: bytes=32 time<1ms TTL=128

Reply from 192.168.0.102: bytes=32 time=1ms TTL=128

Reply from 192.168.0.102: bytes=32 time<1ms TTL=128

Reply from 192.168.0.102: bytes=32 time<1ms TTL=128

Ping statistics for 192.168.0.102:

Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),

Approximate round trip times in milli-seconds:

Minimum = 0ms, Maximum = 1ms, Average = 0ms

C:\>