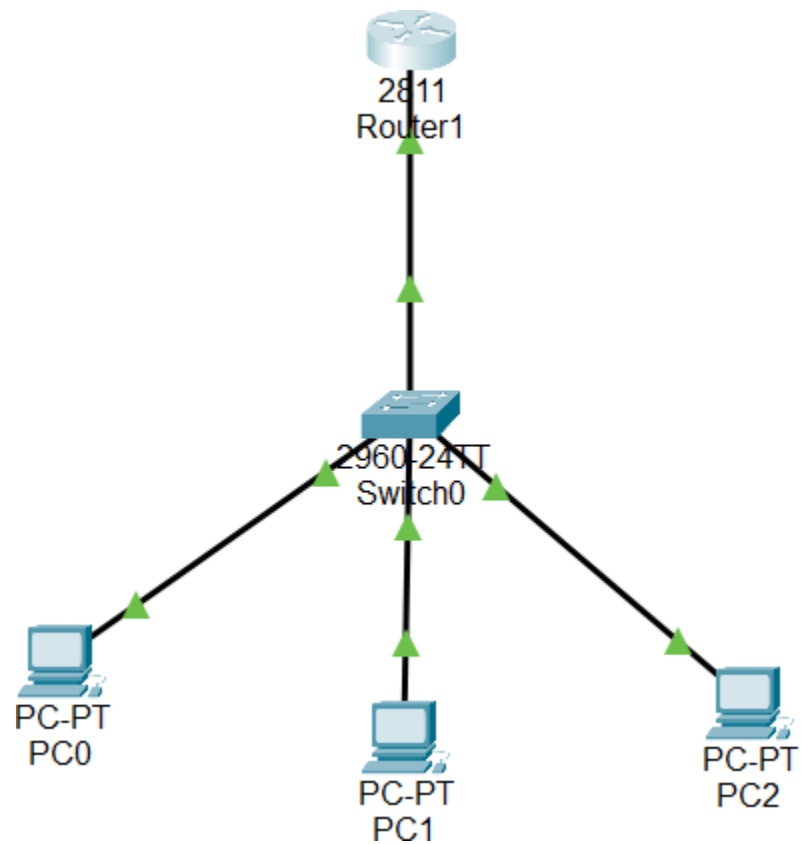


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1. Topologi jaringan DHCP



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

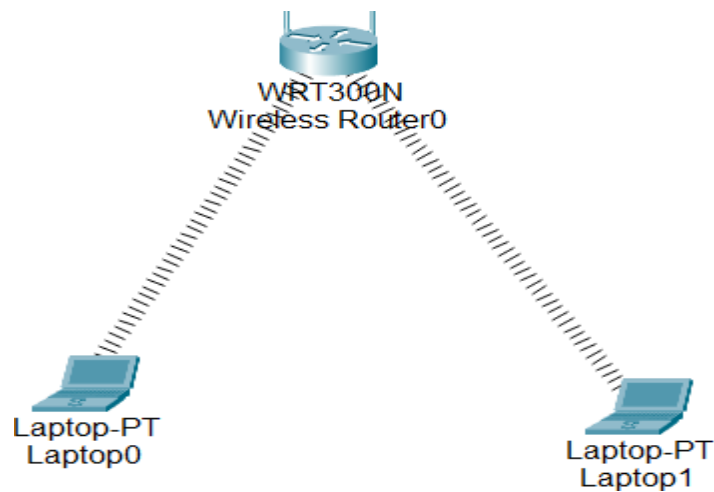
2. IP pada Client/PC

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 Ya / Tidak	Tujuan	Hasil 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 'Internet Setup' tab of a 'Wireless-N Broadband Router' configuration interface. The 'Internet Connection type' is set to 'Automatic Configuration - DHCP'. Under 'Optional Settings', the 'Host Name' and 'Domain Name' fields are empty, and the 'MTU' is set to 1500. The 'Network Setup' section shows the 'Router IP' as 192.168.0.1 and the 'Subnet Mask' as 255.255.255.0. A 'Help...' button is visible on the right side of the page.

- 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. The 'Maximum number of Users' is set to 50. The 'IP Address Range' is 192.168.0.100 - 149. The 'Client Lease Time' is set to 0 minutes (0 means one day). There are three 'Static DNS' fields, all set to 0.0.0.0. There are also three 'WINS' fields, all set to 0.0.0.0. A 'DHCP Reservation' button is located at the top right of the settings area.

- 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 interface has a top navigation bar with tabs: 'Wireless' (selected), 'Setup', 'Wireless', 'Security', 'Access Restrictions', 'Applications & Gaming', and 'Administration'. Below this, there's a sub-navigation bar with links: 'Basic Wireless Settings', 'Wireless Security', 'Guest Network', 'Wireless MAC Filter', and 'Advanced Wire...'. The main content area on the left is titled 'Basic Wireless Settings'. It contains several configuration fields: 'Network Mode' (set to 'Mixed'), 'Network Name (SSID)' (set to 'LabJarkom'), 'Radio Band' (set to 'Auto'), 'Wide Channel' (set to 'Auto'), 'Standard Channel' (set to '1 - 2.412GHz'), and 'SSID Broadcast' (with 'Enabled' selected via a radio button). 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 is identical to the previous screenshot. The sub-navigation bar now highlights 'Wireless Security'. The main content area on the left is titled 'Wireless Security'. It contains several configuration fields: 'Security Mode' (set to 'WPA2 Personal'), 'Encryption' (set to 'AES'), 'Passphrase' (set to '12345678'), and 'Key Renewal' (set to '3600' seconds). The 'seconds' unit is displayed next to the input field.

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	Wireless0	
Settings	Port Status	<input checked="" type="checkbox"/> On
Algorithm Settings	Bandwidth	300 Mbps
INTERFACE	MAC Address	0030.F241.421B
Wireless0	SSID	Default
3G/4G Cell1	<div>Authentication</div> <div><div><input type="radio"/> Disabled</div><div><input type="radio"/> WPA-PSK</div><div><input type="radio"/> WPA</div><div><input type="radio"/> 802.1X</div></div> <div><div><input type="radio"/> WEP</div><div><input checked="" type="radio"/> WPA2-PSK</div><div><input type="radio"/> WPA2</div><div>Method:</div></div> <div><div>WEP Key</div><div>PSK Pass Phrase</div><div>User ID</div><div>Password</div><div>User Name</div><div>Password</div></div> <div><div></div><div>12345678</div><div></div><div>MD5</div><div></div><div></div></div>	

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

IP Configuration	
<input checked="" type="radio"/> DHCP	
<input type="radio"/> Static	
IPv4 Address	192.168.0.101
Subnet Mask	255.255.255.0
IPv6 Configuration	
<input checked="" type="radio"/> Automatic	
<input type="radio"/> Static	
IPv6 Address	
Link Local Address:	FE80::230:F2FF:FEA5:4281

Konfigurasi Laptop PC1

- Konfigurasi Laptop PC pada tab Config

- Physical

Config

Desktop

Programming

Attributes

GLOBAL

Settings

Algorithm Settings

INTERFACE

Wireless0

3G/4G Cell1

Bluetooth

Wireless0

Port Status☒ On

Bandwidth300 Mbps

MAC Address000B.BE62.3E35

SSIDDefault

Authentication

☐ Disabled

☐ WEP

☐ WPA-PSK

☒ WPA2-PSK

☐ WPA

☐ WPA2

☐ 802.1X

Method:

WEP Key

PSK Pass Phrase12345678

User ID

Password

User Name

Password

Encryption TypeAES

- | | |
|--|--------------------------|
| IP Configuration | |
| <input checked="" type="radio"/> DHCP | |
| <input type="radio"/> Static | |
| IPv4 Address | 192.168.0.102 |
| Subnet Mask | 255.255.255.0 |
| IPv6 Configuration | |
| <input checked="" type="radio"/> Automatic | |
| <input type="radio"/> 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

```
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=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

C:\>
```

```
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 192.168.0.100

Pinging 192.168.0.100 with 32 bytes of data:

Request timed out.
Request timed out.
Request timed out.
Request timed out.

Ping statistics for 192.168.0.100:
    Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),

C:\>PING 192.168.0.100

Pinging 192.168.0.100 with 32 bytes of data:

Request timed out.
Request timed out.
Request timed out.
Request timed out.

Ping statistics for 192.168.0.100:
    Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),

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:\>
```