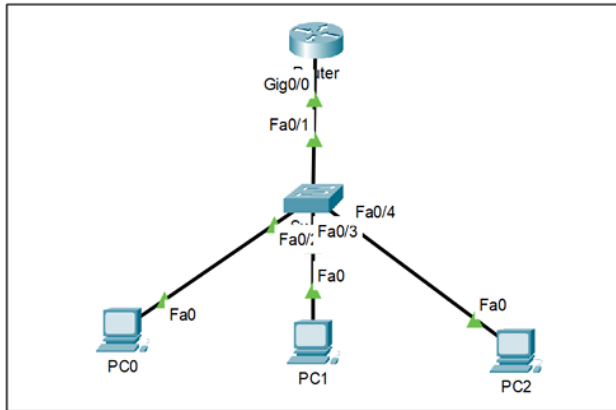


NAMA : CINDY RAMADHANI ANDELKE
NIM : 09010282327021
KELAS : MI3A

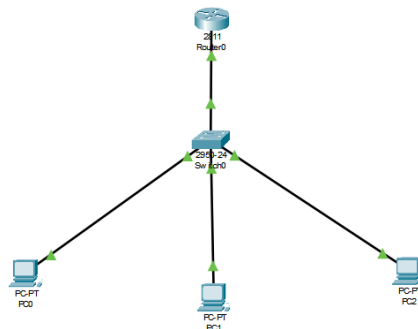
PRAKTIKUM JARINGAN KOMPUTER

A. PERCOBAAN



Gambar 6.1 Topologi jaringan DHCP

1. Buat Topologi Seperti Gambar diatas
2. Pasang Kabel Copper Straight dari PC ke Switch terhubung
3. Setelah itu, kita menyalakan switch daya dan tunggu beberapa menit, router akan menyala.



4. Setelah loading router selesai, kita lanjutkan konfigurasinya.

- **Memberi nama router**

```
Router>enable
Router#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#hostname 7021_dhcp
```

- **Setting IP Address pada router**

```
7021_dhcp(config)#int fa0/0
7021_dhcp(config-if)#ip add 192.168.1.1 255.255.255.0
7021_dhcp(config-if)#no shutdown

7021_dhcp(config-if)#
%LINK-5-CHANGED: Interface FastEthernet0/0, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0, changed state to up

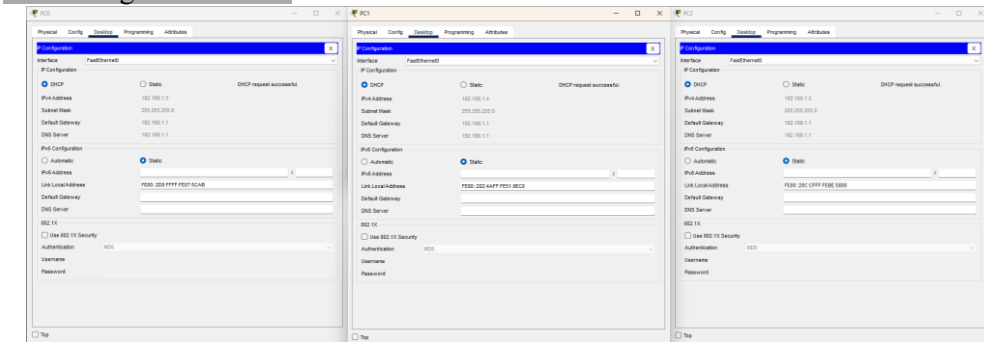
7021_dhcp(config-if)#exit
```

- **Konfigurasi DHCP pada Router**

```
7021_dhcp(config)#ip dhcp pool LAB
7021_dhcp(dhcp-config)#network 192.168.1.0 255.255.255.0
7021_dhcp(dhcp-config)#default-router 192.168.1.1
7021_dhcp(dhcp-config)#dns-server 192.168.1.1
7021_dhcp(dhcp-config)#ip dhcp excluded-address 192.168.1.1
7021_dhcp(dhcp-config)#ip dhcp excluded-address 192.168.1.2
7021_dhcp(dhcp-config)#exit
7021_dhcp#
%SYS-5-CONFIG_I: Configured from console by console
```

5. Setelah itu lakukan konfigurasi pada PC
 - **Konfigurasi DHCP pada client**

- Setting DHCP client



6. Setelah itu Melihat daftar IP dari Client

```
7021 dhcp#sh ip dhcp binding
IP address      Client-ID/      Lease expiration    Type
              Hardware address
192.168.1.3     00D0.FF07.5CAB  --                  Automatic
192.168.1.4     00D0.4B51.9EC0  --                  Automatic
192.168.1.5     000C.CFEE.8900  --                  Automatic
7021 dhcp#
```

NO	IP ADDRESS	MAC ADDRESS	LEASE EXPIRATION	TYPE
1	192.168.1.21	0060.5C83.C776	--	AUTOMATIC
2	192.168.1.22	0060.2F05.0780	--	AUTOMATIC
3	192.168.1.23	00D0.BA10.9254	--	AUTOMATIC

7. Pengalamatan 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

8. Daftar Ip Client

```

Cisco Packet Tracer PC Command Line 1.0
C:\>ping 192.168.1.21
Pinging 192.168.1.21 with 32 bytes of data:
Reply from 192.168.1.21: bytes=32 time<1ms TTL=128
Reply from 192.168.1.21: bytes=32 time<1ms TTL=128
Reply from 192.168.1.21: bytes=32 time<1ms TTL=128
Reply from 192.168.1.21: bytes=32 time<1ms TTL=128
Ping statistics for 192.168.1.21:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 1ms, Average = 0ms
C:\>ping 192.168.1.23
Pinging 192.168.1.23 with 32 bytes of data:
Reply from 192.168.1.23: bytes=32 time<1ms TTL=128
Reply from 192.168.1.23: bytes=32 time<1ms TTL=128
Reply from 192.168.1.23: bytes=32 time<1ms TTL=128
Reply from 192.168.1.23: bytes=32 time<1ms TTL=128
Ping statistics for 192.168.1.23:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 1ms, Average = 0ms

C:\>ping 192.168.1.22
Pinging 192.168.1.22 with 32 bytes of data:
Reply from 192.168.1.22: bytes=32 time<1ms TTL=128
Reply from 192.168.1.22: bytes=32 time<1ms TTL=128
Reply from 192.168.1.22: bytes=32 time<1ms TTL=128
Reply from 192.168.1.22: bytes=32 time<1ms TTL=128
Ping statistics for 192.168.1.22:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms
C:\>ping 192.168.1.21
Pinging 192.168.1.21 with 32 bytes of data:
Reply from 192.168.1.21: bytes=32 time=7ms TTL=128
Reply from 192.168.1.21: bytes=32 time<1ms TTL=128
Reply from 192.168.1.21: bytes=32 time=8ms TTL=128
Reply from 192.168.1.21: bytes=32 time<1ms TTL=128
Ping statistics for 192.168.1.21:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 8ms, Average = 3ms

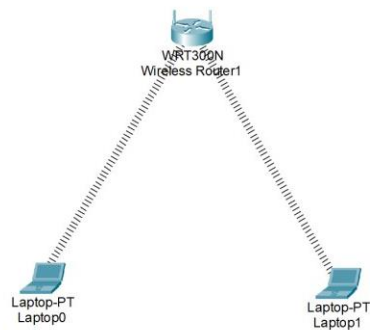
Cisco Packet Tracer PC Command Line 1.0
C:\>ping 192.168.1.23
Pinging 192.168.1.23 with 32 bytes of data:
Reply from 192.168.1.23: bytes=32 time<1ms TTL=128
Reply from 192.168.1.23: bytes=32 time=0ms TTL=128
Reply from 192.168.1.23: bytes=32 time=0ms TTL=128
Reply from 192.168.1.23: bytes=32 time=22ms TTL=128
Ping statistics for 192.168.1.23:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 22ms, Average = 6ms
C:\>ping 192.168.1.22
Pinging 192.168.1.22 with 32 bytes of data:
Reply from 192.168.1.22: bytes=32 time<1ms TTL=128
Reply from 192.168.1.22: bytes=32 time=1ms TTL=128
Reply from 192.168.1.22: bytes=32 time<1ms TTL=128
Reply from 192.168.1.22: bytes=32 time<1ms TTL=128
Ping statistics for 192.168.1.22:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 1ms, Average = 3ms

```

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

LATIHAN PERCOBAAN

1. BUAT TOPOLOGI



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

Physical Config **GUI** Attributes

Wireless-N Broadband Router Firmware Version: 6.45.1

Setup Setup Wireless Security Access Restrictions Applications & Gaming Administration Status

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

IP Address Range: 192.168.0.100 - 149

Client Lease Time: 0 minutes (0 means one day)

Static DNS 1: 0.0.0.0

Static DNS 2: 0.0.0.0

Static DNS 3: 0.0.0.0

WINS: 0.0.0.0

- 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)

DHCP Server Settings

DHCP Server: ☒ Enabled ☐ Disabled DHCP Reservation

Start IP Address: 192.168.0.100

Maximum number of Users: 50

IP Address Range: 192.168.0.100 - 149

Client Lease Time: 0 minutes (0 means one day)

Static DNS 1: 0.0.0.0

Static DNS 2: 0.0.0.0

Static DNS 3: 0.0.0.0

WINS: 0.0.0.0

- **Basic Wireless Settings**

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

Physical Config GUI Attributes

Wireless-N Broadband Router

Wireless Setup Wireless Security Access Restrictions Applications & Gaming Administration

Basic Wireless Settings Wireless Security Guest Network Wireless MAC Filter

Wireless Security

Security Mode: WPA2 Personal

Encryption: AES

Passphrase: 12345678

Key Renewal: 3600 seconds

- **Wireless Security**

- 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)

Physical Config GUI Attributes

Wireless-N Broadband Router

Firmware Version: v0.93.3

Wireless Setup Wireless Security Access Restrictions Applications & Gaming Administration

Basic Wireless Settings Wireless Security Guest Network Wireless MAC Filter

Basic Wireless Settings

Network Mode: Mixed

Network Name (SSID): LabJarkom

Radio Band: Auto

Wire Channel: Auto

Standard Channel: 1 - 2.412GHz

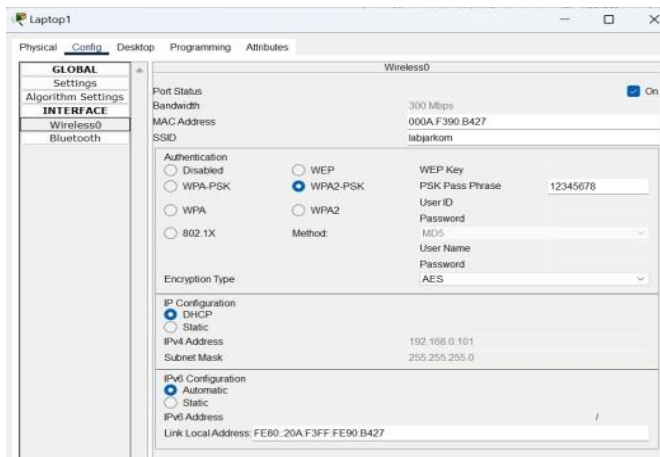
SSID Broadcast: ☒ Enabled ☐ Disabled

Help...

3. KONFIGURASI CLIENT

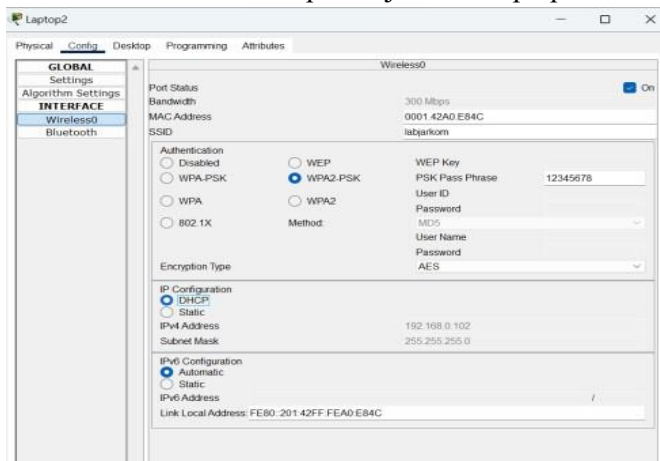
Konfigurasi Laptop1

- Konfigurasi Laptop pada tab Config
- SSID = LabJarkom
- Authentication = WPA2-PSK
- Pass Phrase = 12345678
- Pada IP Configuration memakai DHCP
- Nomor IP akan ditampilkan jika PC Laptop terhubung dan DHCP Server aktif



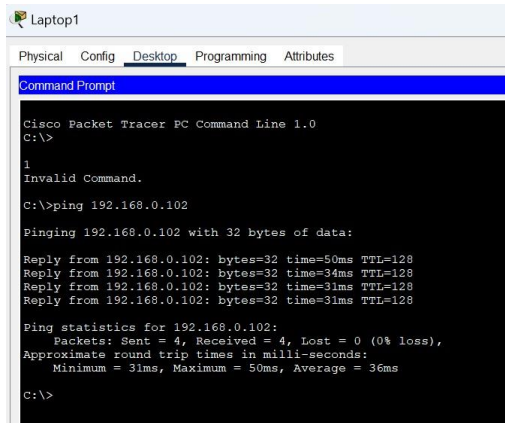
Konfigurasi Laptop2

- Konfigurasi Laptop pada tab Config
- SSID = LabJarkom
- Authentication = WPA2-PSK
- Pass Phrase = 12345678
- IP menggunakan DHCP
- Nomor IP akan ditampilkan jika PC Laptop terhubung dan DHCP Server aktif



4. Pengujian PING

- DiLaptop, pilih tab/menu Desktop -> Command Prompt
- Jalankan perintah Ping ke IP Access Point 192.168.0.1



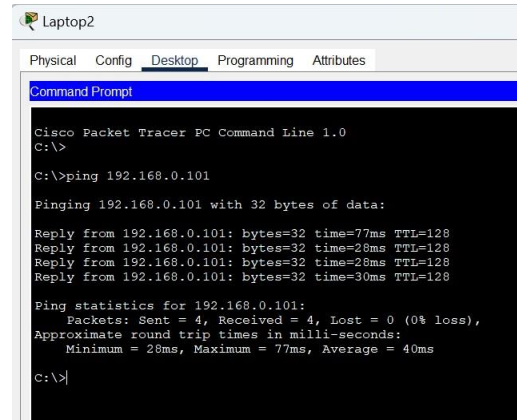
```
Cisco Packet Tracer PC Command Line 1.0
C:\>
1
Invalid Command.
C:\>ping 192.168.0.102

Pinging 192.168.0.102 with 32 bytes of data:
Reply from 192.168.0.102: bytes=32 time=50ms TTL=128
Reply from 192.168.0.102: bytes=32 time=34ms TTL=128
Reply from 192.168.0.102: bytes=32 time=31ms TTL=128
Reply from 192.168.0.102: bytes=32 time=31ms 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 = 31ms, Maximum = 50ms, Average = 36ms

C:\>
```

Ping IP Laptop1 Ke Laptop2



```
Cisco Packet Tracer PC Command Line 1.0
C:\>
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=77ms TTL=128
Reply from 192.168.0.101: bytes=32 time=28ms TTL=128
Reply from 192.168.0.101: bytes=32 time=28ms TTL=128
Reply from 192.168.0.101: bytes=32 time=30ms 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 = 28ms, Maximum = 77ms, Average = 40ms

C:\>
```

Lakukan juga pada Laptop2 Ke Laptop1