

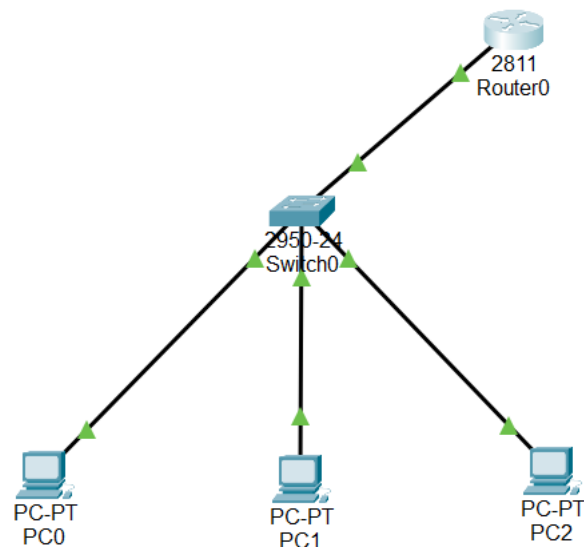
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LAPORAN PRAKTIKUM JARKOM

DHCP



```
Router>enable
Router#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#hostname ROUTER_09010282327037
ROUTER_09010282327037(config)#int fa0/0
ROUTER_09010282327037(config-if)#ip add 192.168.1.1 255.255.255.0
ROUTER_09010282327037(config-if)#no shutdown

ROUTER_09010282327037(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

ROUTER_09010282327037(config-if)#exit
ROUTER_09010282327037(config)#ip dhcp pool LAB
ROUTER_09010282327037(dhcp-config)#network 192.168.1.0 255.255.255.0
ROUTER_09010282327037(dhcp-config)#default-router 192.168.1.1
ROUTER_09010282327037(dhcp-config)#dns-server 192.168.1.1
ROUTER_09010282327037(dhcp-config)#ip dhcp excluded-address 192.168.1.1
ROUTER_09010282327037(config)#ip dhcp excluded-address 192.168.1.2 192.168.1.20
ROUTER_09010282327037(config)#
```

1. Setelah itu Melihat daftar IP dari Client

```

ROUTER_09010282327037#sh ip dhcp binding
IP address      Client-ID/      Lease expiration      Type
Hardware address
192.168.1.23    00E0.F9B3.9DBB  --                    Automatic
192.168.1.21    00E0.8F79.7744  --                    Automatic
192.168.1.22    00D0.FF2E.7442  --                    Automatic

```

No.	IP address	MAC address	Lease expiration	Type
1.	192.168.1.21	00E0.8F79.7744	-	Automatic
2.	192.168.1.22	00D0.FF2E.7442	-	Automatic
3.	192.168.1.23	00E0.F9B3.9DBB	-	Automatic

2. Setelah itu lakukan pengalamatan ip pada Client/PC

The image shows three screenshots of the Cisco Packet Tracer interface, each displaying the IP Configuration window for a different PC (PC0, PC1, and PC2). The configuration for each PC is as follows:

- PC0:** Interface FastEthernet0, DHCP selected, IPv4 Address 192.168.1.21, Subnet Mask 255.255.255.0, Default Gateway 192.168.1.1, DNS Server 192.168.1.1. IPv6 Configuration is set to Static with Link Local Address FE80:2E0:8FFF:FE79:7744.
- PC1:** Interface FastEthernet0, DHCP selected, IPv4 Address 192.168.1.22, Subnet Mask 255.255.255.0, Default Gateway 192.168.1.1, DNS Server 192.168.1.1. IPv6 Configuration is set to Static with Link Local Address FE80:2D0:FFFF:FE2E:7442.
- PC2:** Interface FastEthernet0, DHCP selected, IPv4 Address 192.168.1.23, Subnet Mask 255.255.255.0, Default Gateway 192.168.1.1, DNS Server 192.168.1.1. IPv6 Configuration is set to Static with Link Local Address FE80:2E0:F9FF:FEB3:9DBB.

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. Lakukan pengujian PING pada setiap PC

The image shows three screenshots of the Cisco Packet Tracer interface, each displaying the Command Prompt window for a different PC (PC0, PC1, and PC2) showing the results of a PING test. The results are as follows:

- PC0:** Pinging 192.168.1.22 with 32 bytes of data: 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. Pinging 192.168.1.23 with 32 bytes of data: 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 = 0ms, Average = 0ms.
- PC1:** Pinging 192.168.1.21 with 32 bytes of data: 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 = 22ms, Average = 0ms. Pinging 192.168.1.23 with 32 bytes of data: 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.
- PC2:** Pinging 192.168.1.21 with 32 bytes of data: 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 = 0ms, Average = 0ms. Pinging 192.168.1.22 with 32 bytes of data: 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.

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

WIRELESS (LATIHAN)

1. Buat Topologi Seperti Gambar diatas (note*: Gantilah device tablet menjadi laptop pada topologi diatas dan harus terhubung secara 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

Wireless Router0

Physical Config **GUI** Attributes

Wireless-N Broadband Router

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

- 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

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

Wireless Wireless-N Broad

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

Basic Wireless Settings Wireless Security Guest Network Wireless MAC Filter

Basic Wireless Settings

Network Mode: Mixed

Network Name (SSID): LabJarkom

Radio Band: Auto

Wide Channel: Auto

Standard Channel: 1 - 2.412GHz

SSID Broadcast: ☒ Enabled ☐ Disabled

- 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)

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

Basic Wireless Settings Wireless Security Guest Network Wireless MAC Filter

Wireless Security

Security Mode: WPA2 Personal

Encryption: AES

Passphrase: 12345678

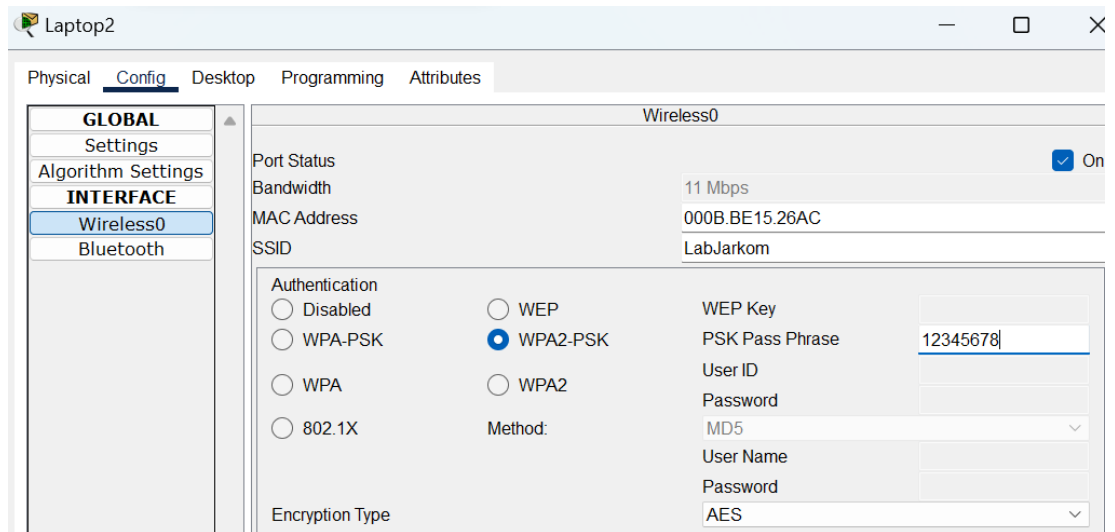
Key Renewal: 3600 seconds

3. Konfigurasi Client

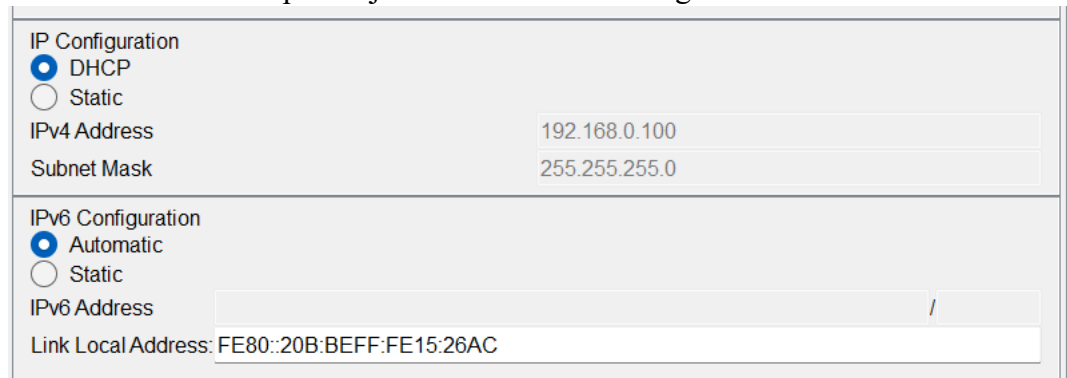
Konfigurasi Tablet PC0

- Konfigurasi Tablet PC pada tab Config
- SSID = LabJarkom
- Authentication = WPA2-PSK

- Pass Phrase = 12345678

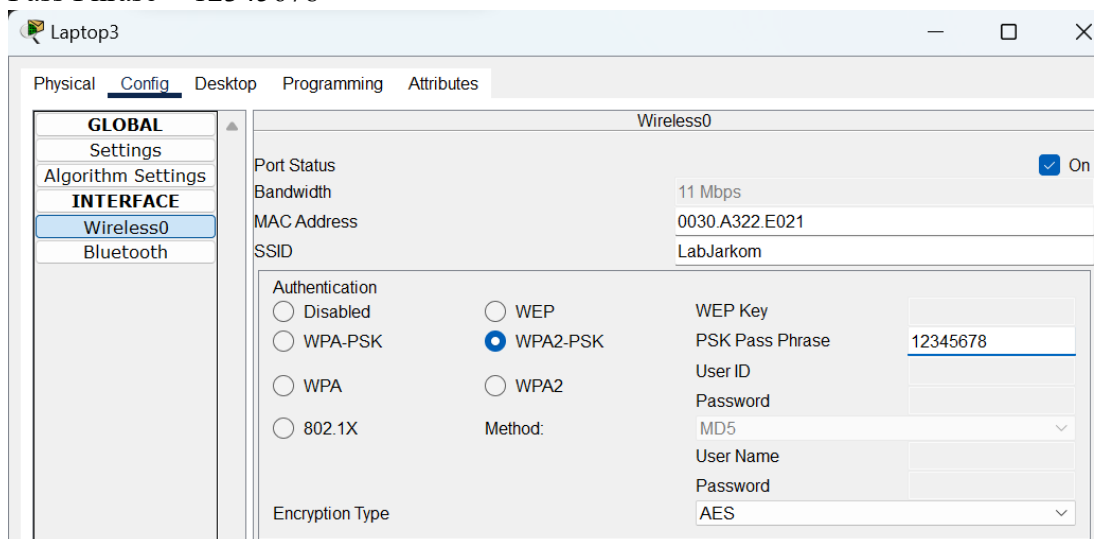


- Pada IP Configuration memakai DHCP
- Nomor IP akan ditampilkan jika PC Tablet terhubung dan DCHP Server aktif



Konfigurasi Tablet PC1

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



- IP menggunakan DHCP

- Nomor IP akan ditampilkan jika PC Tablet terhubung dan DHCP Server aktif

IP Configuration	
<input checked="" type="radio"/> DHCP	
<input type="radio"/> Static	
IPv4 Address	192.168.0.103
Subnet Mask	255.255.255.0
IPv6 Configuration	
<input checked="" type="radio"/> Automatic	
<input type="radio"/> Static	
IPv6 Address	/
Link Local Address: FE80::230:A3FF:FE22:E021	

4. Pengujian PING

- Di PC Tablet, pilih tab/menu Desktop -> Command Prompt
- Jalankan perintah Ping ke IP Access Point 192.168.0.1
- Ping IP PC TabletPC0 Ke PC TabletPC1
- Lakukan juga pada PC TabletPC1 ke PC TabletPC0

Laptop2

Physical Config Desktop Programming Attributes

Command Prompt

```
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=39ms TTL=255
Reply from 192.168.0.1: bytes=32 time=29ms TTL=255
Reply from 192.168.0.1: bytes=32 time=24ms TTL=255
Reply from 192.168.0.1: bytes=32 time=18ms 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 = 18ms, Maximum = 39ms, Average = 27ms

C:\>ping 192.168.0.103

Pinging 192.168.0.103 with 32 bytes of data:

Reply from 192.168.0.103: bytes=32 time=85ms TTL=128
Reply from 192.168.0.103: bytes=32 time=74ms TTL=128
Reply from 192.168.0.103: bytes=32 time=28ms TTL=128
Reply from 192.168.0.103: bytes=32 time=18ms TTL=128

Ping statistics for 192.168.0.103:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 18ms, Maximum = 85ms, Average = 51ms
```

Laptop3

Physical Config Desktop Programming Attributes

Command Prompt

```
Cisco Packet Tracer PC Command Line 1.0
C:\>

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=25ms TTL=255
Reply from 192.168.0.1: bytes=32 time=26ms TTL=255
Reply from 192.168.0.1: bytes=32 time=16ms TTL=255
Reply from 192.168.0.1: bytes=32 time=16ms 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 = 16ms, Maximum = 26ms, Average = 20ms

C:\>ping 192.168.0.100

Pinging 192.168.0.100 with 32 bytes of data:

Reply from 192.168.0.100: bytes=32 time=43ms TTL=128
Reply from 192.168.0.100: bytes=32 time=28ms TTL=128
Reply from 192.168.0.100: bytes=32 time=26ms TTL=128
Reply from 192.168.0.100: bytes=32 time=30ms TTL=128

Ping statistics for 192.168.0.100:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 26ms, Maximum = 43ms, Average = 31ms
```