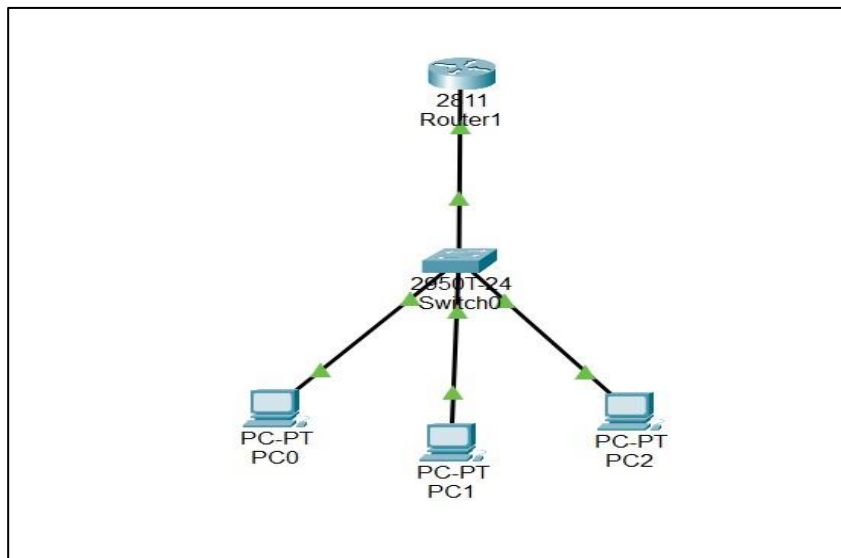


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A. PERCOBAAN



Gambar 6.1 Topologi jaringan DHCP

1. Buat Topologi Seperti Gambar diatas
2. Pasang Kabel Copper Straight dari PC ke Switch terhubung



Gambar 6.2 Tampilan pilihan kabel pada Cisco Packet Tracer

3. Setelah itu, kita menyalakan switch daya dan tunggu beberapa menit, router akan menyala.

```

System Bootstrap, Version 15.1(4)M4, RELEASE SOFTWARE (fc1)
Technical Support: http://www.cisco.com/techsupport
Copyright (c) 2010 by cisco Systems, Inc.
Total memory size = 512 MB - On-board = 512 MB, DIMM0 = 0 MB
CISCO2911/K9 platform with 524288 Kbytes of main memory
Main memory is configured to 72/-1(On-board/DIMM0) bit mode with ECC disabled

Readonly ROMMON initialized

program load complete, entry point: 0x80803000, size: 0x1b340
program load complete, entry point: 0x80803000, size: 0x1b340

IOS Image Load Test

Digitally Signed Release Software
program load complete, entry point: 0x81000000, size: 0x3bcd3d8
Self decompressing the image :
##### [OK]

```

Gambar 6.3 Tampilan booting pada Router

- Setelah loading router selesai, kita lanjutkan konfigurasinya.

Memberi nama Router

```

Router>enable
Router#configure terminal
Router(config)#hostname ROUTER_DHCP

```

Setting IP Address pada Router

```

ROUTER_DHCP(config)#int g0/0
ROUTER_DHCP(config-if)#ip add 192.168.1.1 255.255.255.0
ROUTER_DHCP(config-if)#no shutdown
ROUTER_DHCP(config-if)#
%LINK-5-CHANGED: Interface GigabitEthernet0/0, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/0,
changed state to up

ROUTER_DHCP(config-if)#exit

```

Konfigurasi DHCP pada Router

```

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

```

5. Setelah itu lakukan konfigurasi pada PC

Konfigurasi DHCP Client

Setting DHCP client :

1. Klik 2x pada icon PC,
2. Pilih desktop,
3. Pilih IP Configuration,
4. Pilih DHCP,
5. Tunggu, lalu akan dapat IP DHCP

6. Setelah itu Melihat daftar IP dari Client

Melihat Daftar IP dari Client

ROUTER_DHCP#sh ip dhcp binding

No	IP address	MAC Address	Lease Expiration	Type
1	192.168.1.21	0001.971D.2D10	--	Automatic
2	192.168.1.22	000B.BEED.9C95	--	Automatic
3	192.168.1.23	0060.5C5C.DCEA	--	Automatic

7. Setelah itu lakukan 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. Lakukan pengujian PING pada setiap PC

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

Tes Koneksi dengan menggunakan PING (catat hasil yang anda dapat)

```
Physical Config Desktop Programming Attributes
Command Prompt

Usage: ping [-n count | -v TOS | -t ] target

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=19ms TTL=128
Reply from 192.168.1.21: bytes=32 time=15ms TTL=128
Reply from 192.168.1.21: bytes=32 time<1ms TTL=128
Reply from 192.168.1.21: bytes=32 time=16ms 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 = 19ms, Average = 12ms

C:\>PING 192.168.1.23

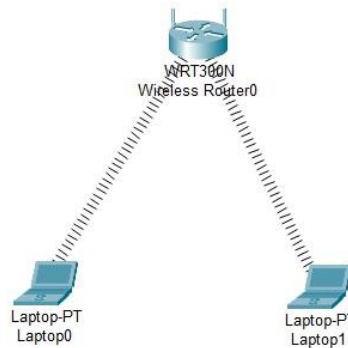
Pinging 192.168.1.23 with 32 bytes of data:

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:\>
```

B. TUGAS PRATIKUM



1. Konfigurasi Access Point

The screenshot shows the configuration interface for a Wireless Router0. The top navigation bar includes tabs for Physical, Config, GUI, and Attributes. The main menu on the left has options for Setup, Wireless, Security, Access Restrictions, Applications & Gaming, and Administration. The Setup section is further divided into Basic Setup, Wireless, Security, Access Restrictions, Applications & Gaming, and Administration. The Internet Setup section is currently selected, showing the Internet Connection type set to Automatic Configuration - DHCP. Below this, the Network Setup section is visible, showing the Router IP address as 192.168.0.1 and the Subnet Mask as 255.255.255.0. The DHCP Server is enabled, and the Start IP Address is 192.168.0.100. The Maximum number of Users is set to 50, and the IP Address Range is 192.168.0.100 - 149. The Client Lease Time is 0 minutes. Static DNS and WINS settings are also visible.

Wireless Router0

Physical Config **GUI** Attributes

Setup Wireless Security Access Restrictions Applications & Gaming Administration

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: ☒ 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

2. Menu Wireless -> Basic Wireless Settings

The screenshot shows the configuration interface for the Wireless section, specifically the Basic Wireless Settings. The top navigation bar includes tabs for Setup, Wireless, Security, Access Restrictions, Applications & Gaming, Administration, and Status. The Wireless section is further divided into Basic Wireless Settings, Wireless Security, Wireless MAC Filter, and Advanced Wireless Settings. The Basic Wireless Settings section is currently selected, showing the Network Mode set to Mixed, Network Name (SSID) as LabJarkom, Radio Band as Auto, Wide Channel as Auto, Standard Channel as 1 - 2.412GHz, and SSID Broadcast as Enabled.

Wireless Setup Wireless Security Access Restrictions Applications & Gaming Administration Status

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

3. Menu Wireless -> Wireless Security

The screenshot shows the configuration interface for the Wireless section, specifically the Wireless Security. The top navigation bar includes tabs for Setup, Wireless, Security, Access Restrictions, Applications & Gaming, Administration, and Status. The Wireless section is further divided into Basic Wireless Settings, Wireless Security, Wireless MAC Filter, and Advanced Wireless Settings. The Wireless Security section is currently selected, showing the Security Mode set to WPA2 Personal, Encryption as AES, Passphrase as 12345678, and Key Renewal as 3600 seconds.

Wireless Setup Wireless Security Access Restrictions Applications & Gaming Administration Status

Wireless Security

Security Mode: WPA2 Personal

Encryption: AES

Passphrase: 12345678

Key Renewal: 3600 seconds

4. Memasukan Konfigurasi Client Konfigurasi Laptop 0 dan Laptop 1

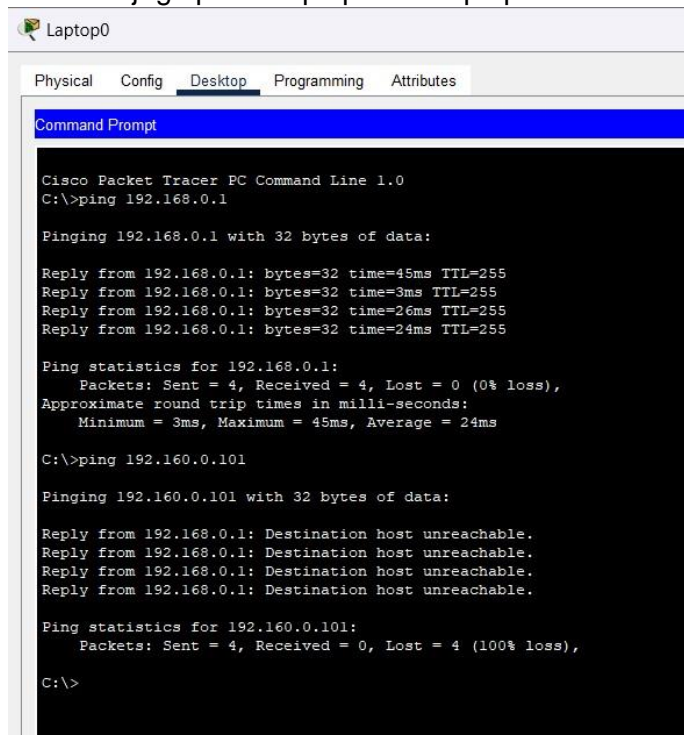
- ✦ Konfigurasi Laptop 0 pada tab Config
- ✦ SSID = LabJarkom
- ✦ Authentication = WPA2-PSK
- ✦ Pass Phrase = 12345678
- ✦ Pada IP Configuration memakai DHCP

No	Client	IP address	Netmask	Gateway
1	Laptop 0	192.168.0.102	255.255.255.0	192.168.0.1
2	Laptop 1	192.168.0.100	255.255.255.0	192.168.0.1

5. Pengujian PING

Di Laptop-PT, pilih tab/menu Desktop -> Command Prompt

- ✦ Jalankan perintah Ping ke IP Access Point 192.168.0.1
- ✦ Ping IP Laptop 0 Ke Laptop 1
- ✦ Lakukan juga pada Laptop 1 ke Laptop 0



```
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=45ms TTL=255
Reply from 192.168.0.1: bytes=32 time=3ms TTL=255
Reply from 192.168.0.1: bytes=32 time=26ms TTL=255
Reply from 192.168.0.1: bytes=32 time=24ms 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 = 3ms, Maximum = 45ms, Average = 24ms

C:\>ping 192.160.0.101

Pinging 192.160.0.101 with 32 bytes of data:

Reply from 192.168.0.1: Destination host unreachable.
Reply from 192.168.0.1: Destination host unreachable.
Reply from 192.168.0.1: Destination host unreachable.
Reply from 192.168.0.1: Destination host unreachable.

Ping statistics for 192.160.0.101:
    Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),

C:\>
```

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=21ms TTL=255
Reply from 192.168.0.1: bytes=32 time=22ms TTL=255
Reply from 192.168.0.1: bytes=32 time=16ms TTL=255
Reply from 192.168.0.1: bytes=32 time=20ms 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 = 22ms, Average = 19ms

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=31ms TTL=128
Reply from 192.168.0.100: bytes=32 time=25ms TTL=128
Reply from 192.168.0.100: bytes=32 time=24ms TTL=128
Reply from 192.168.0.100: bytes=32 time=23ms 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 = 23ms, Maximum = 31ms, Average = 25ms

C:\>|
```