

Internet dan Aplikasinya
TUGAS 8 : Wireless



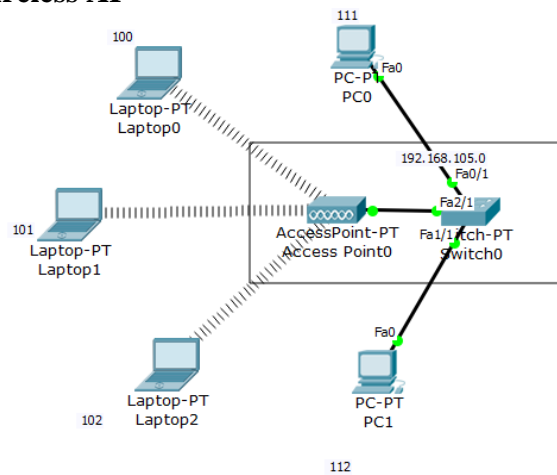
Oleh :

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NIM : 215314105

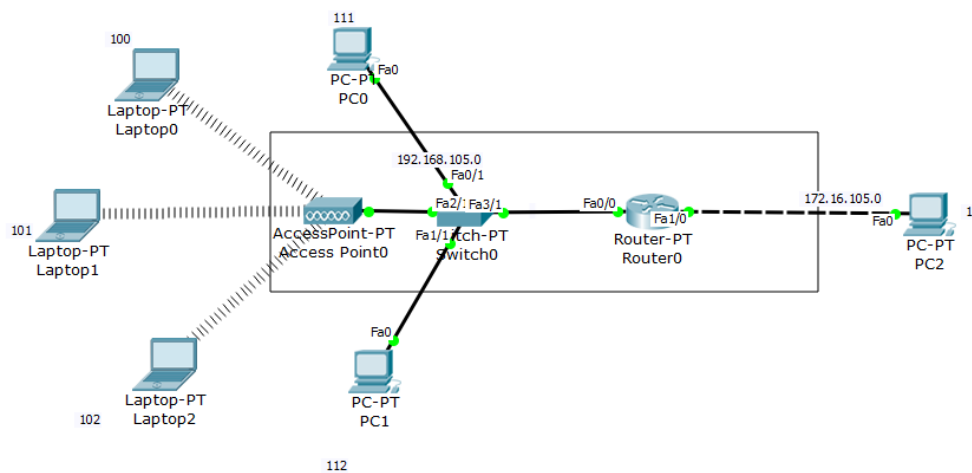
PROGRAM STUDI INFORMATIKA
FAKULTAS SAINS DAN TEKNOLOGI
UNIVERSITAS SANATA DHARMA
YOGYAKARTA
2022

A. Screenshot Topologi

1. Wireless AP



2. Wireless Router



B. Config Access Point

1. Wireless AP

Port 1	
Port Status	<input checked="" type="checkbox"/> On
SSID	Yogtan
Channel	5
Authentication	
<input type="radio"/> Disabled	<input type="radio"/> WEP
<input type="radio"/> WPA-PSK	<input checked="" type="radio"/> WPA2-PSK
WEP Key	PSK Pass Phrase 12345678
Encryption Type	AES

2. Wireless Router

Port 1	
Port Status	<input checked="" type="checkbox"/> On
SSID	Yogtan
Channel	5
Authentication	
<input type="radio"/> Disabled	<input type="radio"/> WEP
WEP Key	
<input type="radio"/> WPA-PSK	<input checked="" type="radio"/> WPA2-PSK
PSK Pass Phrase	12345678
Encryption Type	AES

C. Config Setiap PC

1. Wireless AP

Laptop 100

Wireless0	
Port Status	<input checked="" type="checkbox"/> On
Bandwidth	54 Mbps
MAC Address	00D0.975A.70A9
SSID	Yogtan
Authentication	
<input type="radio"/> Disabled	<input type="radio"/> WEP
WEP Key	
<input type="radio"/> WPA-PSK	<input checked="" type="radio"/> WPA2-PSK
PSK Pass Phrase	12345678
<input type="radio"/> WPA	<input type="radio"/> WPA2
User ID	
Password	
Encryption Type	AES
IP Configuration	
<input type="radio"/> DHCP	
<input checked="" type="radio"/> Static	
IP Address	192.168.105.100
Subnet Mask	255.255.255.0

Laptop 101

Wireless0	
Port Status	<input checked="" type="checkbox"/> On
Bandwidth	54 Mbps
MAC Address	0004.9A0D.EEB3
SSID	Yogtan
Authentication	
<input type="radio"/> Disabled	<input type="radio"/> WEP
<input type="radio"/> WPA-PSK	<input checked="" type="radio"/> WPA2-PSK
<input type="radio"/> WPA	<input type="radio"/> WPA2
WEP Key	
PSK Pass Phrase	12345678
User ID	
Password	
Encryption Type	AES
IP Configuration	
<input type="radio"/> DHCP	
<input checked="" type="radio"/> Static	
IP Address	192.168.105.101
Subnet Mask	255.255.255.0

Laptop 102

Wireless0	
Port Status	<input checked="" type="checkbox"/> On
Bandwidth	48 Mbps
MAC Address	0009.7CB3.78C5
SSID	Yogtan
Authentication	
<input type="radio"/> Disabled	<input type="radio"/> WEP
<input type="radio"/> WPA-PSK	<input checked="" type="radio"/> WPA2-PSK
<input type="radio"/> WPA	<input type="radio"/> WPA2
WEP Key	
PSK Pass Phrase	12345678
User ID	
Password	
Encryption Type	AES
IP Configuration	
<input type="radio"/> DHCP	
<input checked="" type="radio"/> Static	
IP Address	192.168.105.102
Subnet Mask	255.255.255.0

PC 111

IP Configuration		X
IP Configuration		
<input type="radio"/> DHCP	<input checked="" type="radio"/> Static	
IP Address	192.168.105.111	
Subnet Mask	255.255.255.0	
Default Gateway		
DNS Server		

PC 112

IP Configuration		X
IP Configuration		
<input type="radio"/> DHCP	<input checked="" type="radio"/> Static	
IP Address	192.168.105.112	
Subnet Mask	255.255.255.0	
Default Gateway		
DNS Server		

2. Wireless Router

Laptop 100

SSID	Yogtan		
Authentication			
<input type="radio"/> Disabled	<input type="radio"/> WEP	WEP Key	
<input type="radio"/> WPA-PSK	<input checked="" type="radio"/> WPA2-PSK	PSK Pass Phrase	12345678
<input type="radio"/> WPA	<input type="radio"/> WPA2	User ID	
		Password	
Encryption Type	AES		

IP Configuration		X
IP Configuration		
<input type="radio"/> DHCP	<input checked="" type="radio"/> Static	
IP Address	192.168.105.100	
Subnet Mask	255.255.255.0	
Default Gateway	192.168.105.254	

Laptop 101

SSID	Yogtan		
Authentication			
<input type="radio"/> Disabled	<input type="radio"/> WEP	WEP Key	
<input type="radio"/> WPA-PSK	<input checked="" type="radio"/> WPA2-PSK	PSK Pass Phrase	12345678
<input type="radio"/> WPA	<input type="radio"/> WPA2	User ID	
		Password	
Encryption Type	AES		

IP Configuration	
IP Configuration	
<input type="radio"/> DHCP	<input checked="" type="radio"/> Static
IP Address	192.168.105.101
Subnet Mask	255.255.255.0
Default Gateway	192.168.105.254

Laptop 102

SSID	Yogtan		
Authentication			
<input type="radio"/> Disabled	<input type="radio"/> WEP	WEP Key	
<input type="radio"/> WPA-PSK	<input checked="" type="radio"/> WPA2-PSK	PSK Pass Phrase	12345678
<input type="radio"/> WPA	<input type="radio"/> WPA2	User ID	
		Password	
Encryption Type	AES		

IP Configuration	
IP Configuration	
<input type="radio"/> DHCP	<input checked="" type="radio"/> Static
IP Address	192.168.105.102
Subnet Mask	255.255.255.0
Default Gateway	192.168.105.254

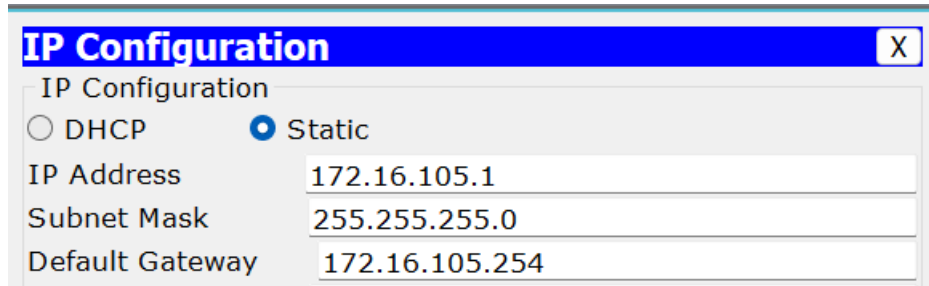
PC 111

IP Configuration	
IP Configuration	
<input type="radio"/> DHCP	<input checked="" type="radio"/> Static
IP Address	192.168.105.111
Subnet Mask	255.255.255.0
Default Gateway	192.168.105.254

PC 112

IP Configuration	
IP Configuration	
<input type="radio"/> DHCP	<input checked="" type="radio"/> Static
IP Address	192.168.105.112
Subnet Mask	255.255.255.0
Default Gateway	192.168.105.254

PC 1



D. Screenshot Ping

1. Wireless AP

Laptop 100 > Laptop 101

```
PC>ping 192.168.105.101

Pinging 192.168.105.101 with 32 bytes of data:

Reply from 192.168.105.101: bytes=32 time=38ms TTL=128
Reply from 192.168.105.101: bytes=32 time=19ms TTL=128
Reply from 192.168.105.101: bytes=32 time=16ms TTL=128
Reply from 192.168.105.101: bytes=32 time=18ms TTL=128

Ping statistics for 192.168.105.101:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 16ms, Maximum = 38ms, Average = 22ms
```

Laptop 100 > Laptop 102

```
PC>ping 192.168.105.102

Pinging 192.168.105.102 with 32 bytes of data:

Reply from 192.168.105.102: bytes=32 time=48ms TTL=128
Reply from 192.168.105.102: bytes=32 time=18ms TTL=128
Reply from 192.168.105.102: bytes=32 time=18ms TTL=128
Reply from 192.168.105.102: bytes=32 time=18ms TTL=128

Ping statistics for 192.168.105.102:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 18ms, Maximum = 48ms, Average = 25ms
```

Laptop 100 > PC 111

```
PC>ping 192.168.105.111

Pinging 192.168.105.111 with 32 bytes of data:

Reply from 192.168.105.111: bytes=32 time=28ms TTL=128
Reply from 192.168.105.111: bytes=32 time=14ms TTL=128
Reply from 192.168.105.111: bytes=32 time=16ms TTL=128
Reply from 192.168.105.111: bytes=32 time=14ms TTL=128

Ping statistics for 192.168.105.111:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 14ms, Maximum = 28ms, Average = 18ms
```

Laptop 100 > PC 112

```
PC>ping 192.168.105.112

Pinging 192.168.105.112 with 32 bytes of data:

Reply from 192.168.105.112: bytes=32 time=25ms TTL=128
Reply from 192.168.105.112: bytes=32 time=11ms TTL=128
Reply from 192.168.105.112: bytes=32 time=24ms TTL=128
Reply from 192.168.105.112: bytes=32 time=12ms TTL=128

Ping statistics for 192.168.105.112:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 11ms, Maximum = 25ms, Average = 18ms
```

2. Wireless Router

Laptop 100 > Laptop 101

```
PC>ping 192.168.105.101

Pinging 192.168.105.101 with 32 bytes of data:

Reply from 192.168.105.101: bytes=32 time=26ms TTL=128
Reply from 192.168.105.101: bytes=32 time=15ms TTL=128
Reply from 192.168.105.101: bytes=32 time=16ms TTL=128
Reply from 192.168.105.101: bytes=32 time=20ms TTL=128

Ping statistics for 192.168.105.101:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 15ms, Maximum = 26ms, Average = 19ms
```

Laptop 100 > Laptop 102

```
PC>ping 192.168.105.102

Pinging 192.168.105.102 with 32 bytes of data:

Reply from 192.168.105.102: bytes=32 time=26ms TTL=128
Reply from 192.168.105.102: bytes=32 time=20ms TTL=128
Reply from 192.168.105.102: bytes=32 time=19ms TTL=128
Reply from 192.168.105.102: bytes=32 time=16ms TTL=128

Ping statistics for 192.168.105.102:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 16ms, Maximum = 26ms, Average = 20ms
```

Laptop 100 > Laptop 111

```
PC>ping 192.168.105.111

Pinging 192.168.105.111 with 32 bytes of data:

Reply from 192.168.105.111: bytes=32 time=29ms TTL=128
Reply from 192.168.105.111: bytes=32 time=9ms TTL=128
Reply from 192.168.105.111: bytes=32 time=8ms TTL=128
Reply from 192.168.105.111: bytes=32 time=9ms TTL=128

Ping statistics for 192.168.105.111:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 8ms, Maximum = 29ms, Average = 13ms
```


Laptop 100 > PC 112

```
PC>ping 192.168.105.112

Pinging 192.168.105.112 with 32 bytes of data:

Reply from 192.168.105.112: bytes=32 time=25ms TTL=128
Reply from 192.168.105.112: bytes=32 time=13ms TTL=128
Reply from 192.168.105.112: bytes=32 time=10ms TTL=128
Reply from 192.168.105.112: bytes=32 time=10ms TTL=128

Ping statistics for 192.168.105.112:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 10ms, Maximum = 25ms, Average = 14ms
```

Laptop 100 > PC 1

```
PC>ping 172.168.105.1














Pinging 172.168.105.1 with 32 bytes of data:

Reply from 192.168.105.254: Destination host unreachable.
Reply from 192.168.105.254: Destination host unreachable.
Reply from 192.168.105.254: Destination host unreachable.
Reply from 192.168.105.254: Destination host unreachable.

Ping statistics for 172.168.105.1:
    Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),
```

E. Analisis

Dari simulasi tersebut saya dapat menyimpulkan bahwa AP dilihat dari collision domain lebih mirip hub, karena ketika pesan berada di AP, pesan di broadcast di laptop 100, laptop 101, laptop 102. Sama halnya seperti hub, pesannya akan di broadcast terlebih dahulu, tidak seperti switch yang langsung dikirimkan langsung.

0.007	--	Access...	ICMP	
0.008	Access ...	Laptop1	ICMP	
0.008	Access ...	Laptop0	ICMP	
0.008	Access ...	Laptop2	ICMP	
0.013	--	Laptop0	ICMP	
0.014	Laptop0	Access...	ICMP	
0.015	Access ...	Switch0	ICMP	
0.015	--	Access...	ICMP	
 0.016	Access ...	Laptop1	ICMP	
 0.016	Access ...	Laptop0	ICMP	
 0.016	Access ...	Laptop2	ICMP	