

Laporan Praktikum Jaringan Komputer

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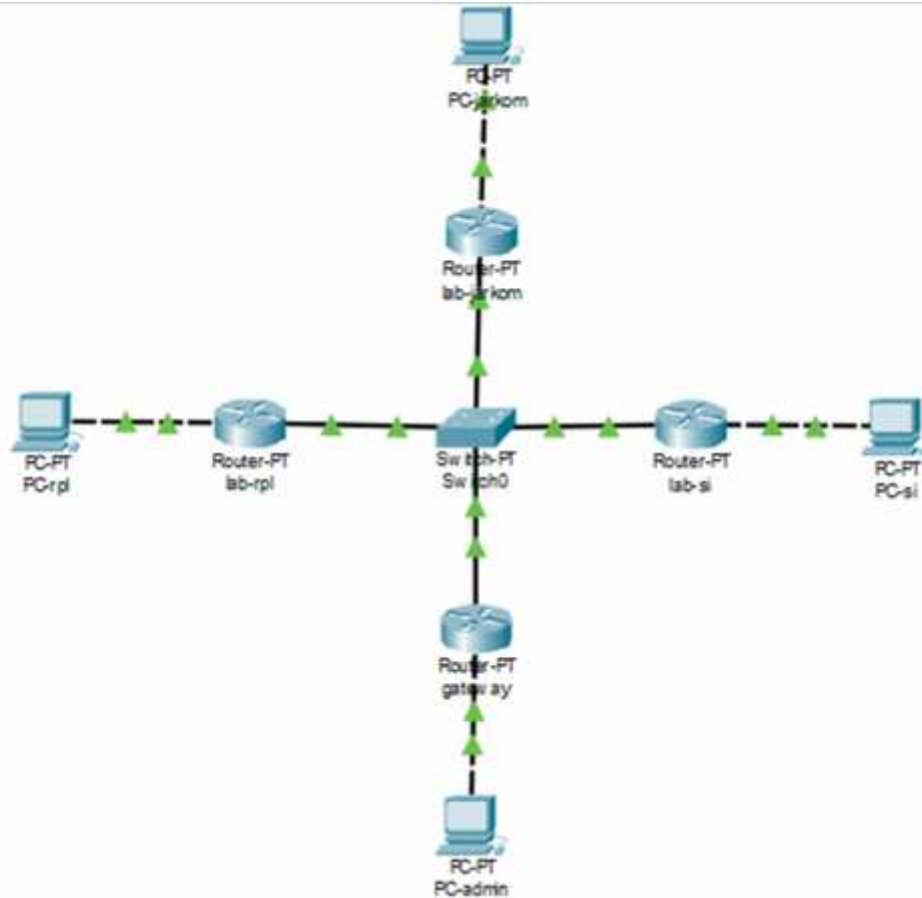
NIM : L200170130

Kelas : C

Modul : 11 (Perancangan Jaringan Laboratorium Sederhana)

Kegiatan Praktikum.

1. Buat netmap dengan router 2514 dan switch 1912.



2. Konfigurasi IP Address pada semua Router.

- Konfigurasi Router 1

```
Router>en
Router#conf term
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#hostname Jarkom
Jarkom(config)#int fa0/0
Jarkom(config-if)#ip address 172.16.0.1 255.255.255.0
Jarkom(config-if)#no shutdown

Jarkom(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

Jarkom(config-if)#exit
Jarkom(config)#int fal/0
Jarkom(config-if)#ip address 172.15.0.1 255.255.255.0
Jarkom(config-if)#no shutdown

Jarkom(config-if)#
%LINK-5-CHANGED: Interface FastEthernet1/0, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet1/0, changed state to up

Jarkom(config-if)#exit
Jarkom(config)#router rip
```

- Konfigurasi Router 2

```
Router>en
Router#conf term
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#hostname SistemInformasi
SistemInformasi(config)#int fa0/0
SistemInformasi(config-if)#ip address 172.17.0.1 255.255.255.0
SistemInformasi(config-if)#no shutdown

SistemInformasi(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

SistemInformasi(config-if)#exit
SistemInformasi(config)#int fal/0
SistemInformasi(config-if)#ip address 172.15.0.2 255.255.255.0
SistemInformasi(config-if)#no shutdown

SistemInformasi(config-if)#
%LINK-5-CHANGED: Interface FastEthernet1/0, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet1/0, changed state to up

SistemInformasi(config-if)#exit
SistemInformasi(config)#router rip
```

- Konfigurasi Router 3

```
Router>en
Router#conf term
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#hostname RPL
RPL(config)#int fa0/0
RPL(config-if)#ip address 172.18.0.1 255.255.255.0
RPL(config-if)#no shutdown

RPL(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

RPL(config-if)#exit
RPL(config)#int fa1/0
RPL(config-if)#ip address 172.15.0.3 255.255.255.0
RPL(config-if)#no shutdown

RPL(config-if)#
%LINK-5-CHANGED: Interface FastEthernet1/0, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet1/0, changed state to up

RPL(config-if)#exit
RPL(config)#router rip
```

- Konfigurasi Router 4

```
Router>en
Router#conf term
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#hostname UMS
UMS(config)#int fa0/0
UMS(config-if)#ip address 172.19.0.1 255.255.255.0
UMS(config-if)#no shutdown

UMS(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

UMS(config-if)#exit
UMS(config)#int fa1/0
UMS(config-if)#ip address 172.15.0.4 255.255.255.0
UMS(config-if)#no shutdown

UMS(config-if)#
%LINK-5-CHANGED: Interface FastEthernet1/0, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet1/0, changed state to up

UMS(config-if)#exit
UMS(config)#router rip
```

3. Konfigurasi Routing Table pada semua Router.

- Routing Table pada Router 1 (Jarkom)

```
Jarkom(config-if)#exit
Jarkom(config)#router rip
Jarkom(config-router)#network 172.15.0.0
Jarkom(config-router)#network 172.16.0.0
Jarkom(config-router)#network 172.17.0.0
Jarkom(config-router)#network 172.18.0.0
Jarkom(config-router)#network 172.19.0.0
Jarkom(config-router)#
```

- Routing Table pada Router 2 (Sistem Informasi)

```
SistemInformasi(config-if)#exit
SistemInformasi(config)#router rip
SistemInformasi(config-router)#network 172.15.0.0
SistemInformasi(config-router)#network 172.16.0.0
SistemInformasi(config-router)#network 172.17.0.0
SistemInformasi(config-router)#network 172.18.0.0
SistemInformasi(config-router)#network 172.19.0.0
SistemInformasi(config-router)#
```

- Routing Table pada Router 3 (RPL)

```
RPL(config-if)#exit
RPL(config)#router rip
RPL(config-router)#network 172.15.0.0
RPL(config-router)#network 172.16.0.0
RPL(config-router)#network 172.17.0.0
RPL(config-router)#network 172.18.0.0
RPL(config-router)#network 172.19.0.0
RPL(config-router)#
```

- Routing Table pada Gateway (UMS)

```
UMS(config-if)#exit
UMS(config)#router rip
UMS(config-router)#network 172.15.0.0
UMS(config-router)#network 172.16.0.0
UMS(config-router)#network 172.17.0.0
UMS(config-router)#network 172.18.0.0
UMS(config-router)#network 172.19.0.0
UMS(config-router)#
```

4. Konfigurasi IP pada masing-masing PC.
- Setting IP untuk PC lab Jarkom (172.16.0.2)

The screenshot shows the configuration window for a PC named 'PC-jarkom'. The 'Config' tab is selected, and the 'Static' radio button is chosen for IP configuration. The IP Address is set to 172.16.0.2, Subnet Mask to 255.255.255.0, Default Gateway to 172.16.0.1, and DNS Server to 0.0.0.0. The IPv6 Configuration section shows 'Static' selected, with an empty IPv6 Address field, a Link Local Address of FE80::201:63FF:FEE4:7C53, and empty fields for IPv6 Gateway and IPv6 DNS Server. The 802.1X section has 'Use 802.1X Security' unchecked, 'Authentication' set to RADIUS, and empty fields for Username and Password. A 'Top' button is at the bottom left.

Field	Value
IP Address	172.16.0.2
Subnet Mask	255.255.255.0
Default Gateway	172.16.0.1
DNS Server	0.0.0.0
IPv6 Address	
Link Local Address	FE80::201:63FF:FEE4:7C53
IPv6 Gateway	
IPv6 DNS Server	
Use 802.1X Security	<input type="checkbox"/>
Authentication	RADIUS
Username	
Password	

- Setting IP untuk PC lab SI (172.17.0.2)

The screenshot shows the configuration window for a PC named 'PC-si'. The 'Config' tab is selected, and the 'Static' radio button is chosen for IP configuration. The IP Address is set to 172.17.0.2, Subnet Mask to 255.255.255.0, Default Gateway to 172.16.0.1, and DNS Server to 0.0.0.0. The IPv6 Configuration section shows 'Static' selected, with an empty IPv6 Address field, a Link Local Address of FE80::20A:F3FF:FE18:3865, and empty fields for IPv6 Gateway and IPv6 DNS Server. The 802.1X section has 'Use 802.1X Security' unchecked, 'Authentication' set to RADIUS, and empty fields for Username and Password. A 'Top' button is at the bottom left.

Field	Value
IP Address	172.17.0.2
Subnet Mask	255.255.255.0
Default Gateway	172.16.0.1
DNS Server	0.0.0.0
IPv6 Address	
Link Local Address	FE80::20A:F3FF:FE18:3865
IPv6 Gateway	
IPv6 DNS Server	
Use 802.1X Security	<input type="checkbox"/>
Authentication	RADIUS
Username	
Password	

- Setting IP untuk PC lab RPL (172.18.0.2)

The screenshot shows the configuration window for a PC named 'PC-rpl'. The 'Desktop' tab is selected. Under the 'Static' IP configuration, the IP Address is set to 172.18.0.2, Subnet Mask to 255.255.255.0, Default Gateway to 172.17.0.1, and DNS Server to 0.0.0.0. The IPv6 Configuration section shows 'Static' selected, with empty fields for IPv6 Address, Link Local Address (FE80::20C:CFFF:FE8B:2541), IPv6 Gateway, and IPv6 DNS Server. The 802.1X section has 'Use 802.1X Security' unchecked, 'Authentication' set to 'MD5', and empty fields for Username and Password. A 'Top' button is at the bottom left.

Field	Value
IP Address	172.18.0.2
Subnet Mask	255.255.255.0
Default Gateway	172.17.0.1
DNS Server	0.0.0.0
IPv6 Address	
Link Local Address	FE80::20C:CFFF:FE8B:2541
IPv6 Gateway	
IPv6 DNS Server	
Use 802.1X Security	<input type="checkbox"/>
Authentication	MD5
Username	
Password	

- Setting IP untuk PC Gateway (172.19.0.2)

The screenshot shows the configuration window for a PC named 'PC-admin'. The 'Desktop' tab is selected. Under the 'Static' IP configuration, the IP Address is set to 172.19.0.2, Subnet Mask to 255.255.255.0, Default Gateway to 172.19.0.1, and DNS Server to 0.0.0.0. The IPv6 Configuration section shows 'Static' selected, with empty fields for IPv6 Address, Link Local Address (FE80::20C:CFFF:FE4B:B04), IPv6 Gateway, and IPv6 DNS Server. The 802.1X section has 'Use 802.1X Security' unchecked, 'Authentication' set to 'MD5', and empty fields for Username and Password. A 'Top' button is at the bottom left.

Field	Value
IP Address	172.19.0.2
Subnet Mask	255.255.255.0
Default Gateway	172.19.0.1
DNS Server	0.0.0.0
IPv6 Address	
Link Local Address	FE80::20C:CFFF:FE4B:B04
IPv6 Gateway	
IPv6 DNS Server	
Use 802.1X Security	<input type="checkbox"/>
Authentication	MD5
Username	
Password	

5. Pengujian ICMP request (ping)

- Proses ping dari PC Admin ke PC Jarkom

```
C:\>ping 172.16.0.2

Pinging 172.16.0.2 with 32 bytes of data:

Reply from 172.16.0.2: bytes=32 time=1ms TTL=126
Reply from 172.16.0.2: bytes=32 time=10ms TTL=126
Reply from 172.16.0.2: bytes=32 time=1ms TTL=126
Reply from 172.16.0.2: bytes=32 time=12ms TTL=126

Ping statistics for 172.16.0.2:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 1ms, Maximum = 12ms, Average = 6ms
```

- Proses ping dari PC Admin ke PC SI

```
C:\>ping 172.17.0.2

Pinging 172.17.0.2 with 32 bytes of data:

Reply from 172.17.0.2: bytes=32 time=2ms TTL=126
Reply from 172.17.0.2: bytes=32 time<1ms TTL=126
Reply from 172.17.0.2: bytes=32 time<1ms TTL=126
Reply from 172.17.0.2: bytes=32 time<1ms TTL=126

Ping statistics for 172.17.0.2:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 2ms, Average = 0ms
```

- Proses ping dari PC Admin ke PC RPL

```
C:\>ping 172.18.0.2

Pinging 172.18.0.2 with 32 bytes of data:

Reply from 172.18.0.2: bytes=32 time<1ms TTL=126
Reply from 172.18.0.2: bytes=32 time=10ms TTL=126
Reply from 172.18.0.2: bytes=32 time<1ms TTL=126
Reply from 172.18.0.2: bytes=32 time=14ms TTL=126

Ping statistics for 172.18.0.2:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 14ms, Average = 6ms
```