LAPORAN PROJECT

JARINGAN KOMPUTER LANJUTAN

Anggota Kelompok:

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TEKNIK INFORMATIKA

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UNIVERSITAS ESA UNGGUL

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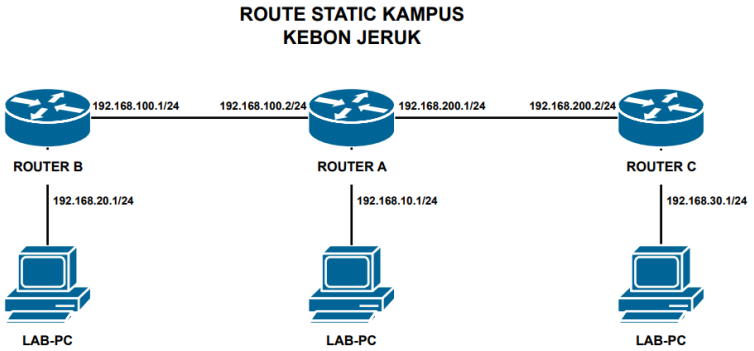
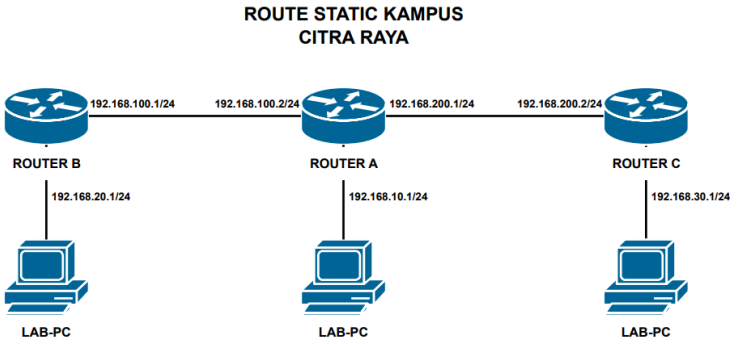
1. Router Static

Router Static adalah metode konfigurasi router secara manual untuk mengarahkan lalu lintas jaringan ke tujuannya.

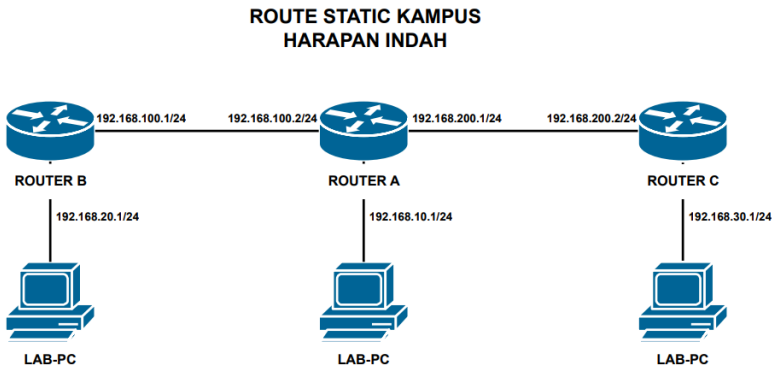
1.1. Kampus Kebon Jeruk (KJ)



1.2. Kampus Citra Raya (KCR)



1.3. Kampus Harapan Indah (KHI)



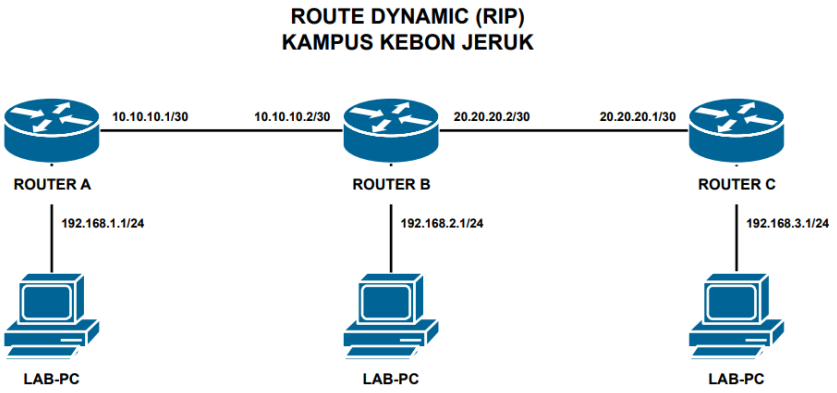
2. Router Dynamic

Router Dynamic adalah metode konfigurasi routing secara otomatis sesuai dengan pengaturan yang dibuat.

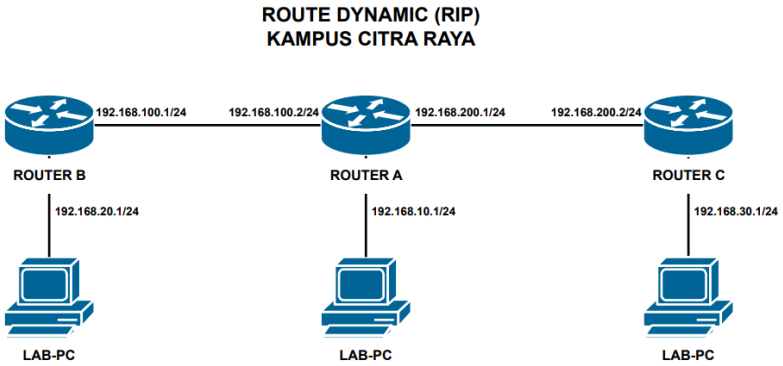
2.1. RIP (*Routing Information Protocol*)

RIP *(Routing Information Protocol)* adalah protokol routing dinamis yang menggunakan vektor jarak *hop count* sebagai metrik utamanya.

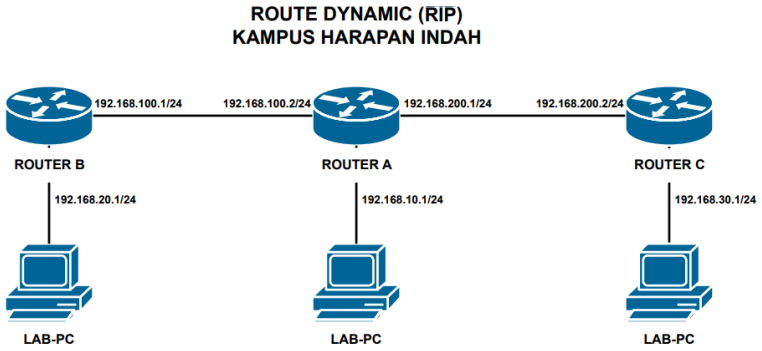
2.1.1. Kampus Kebon Jeruk (KJ)



2.1.2. Kampus Citra Raya (KCR)



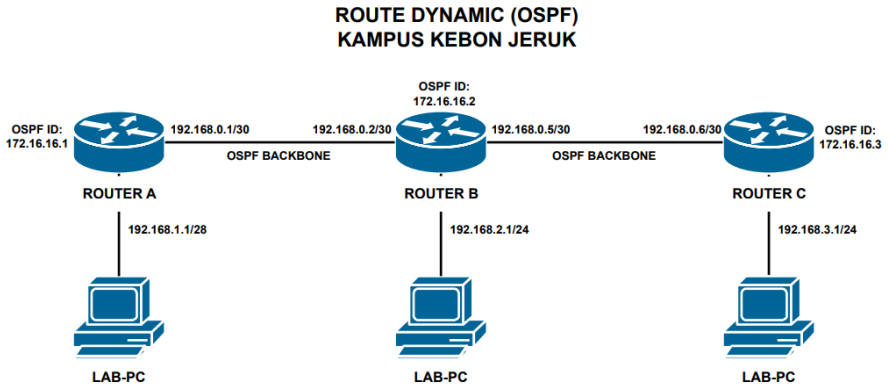
2.1.3. Kampus Harapan Indah (KHI)



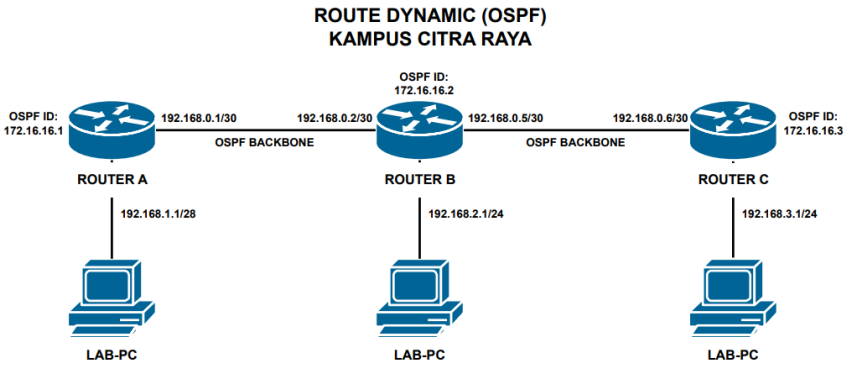
2.2. OSPF (*Open Shortest Path First*)

OSPF *(Open Shortest Path First)* adalah sebuah protokol routing otomatis yang mampu menjaga, mengatur dan mendistribusikan informasi routing antar network mengikuti setiap perubahan jaringan secara dinamis.

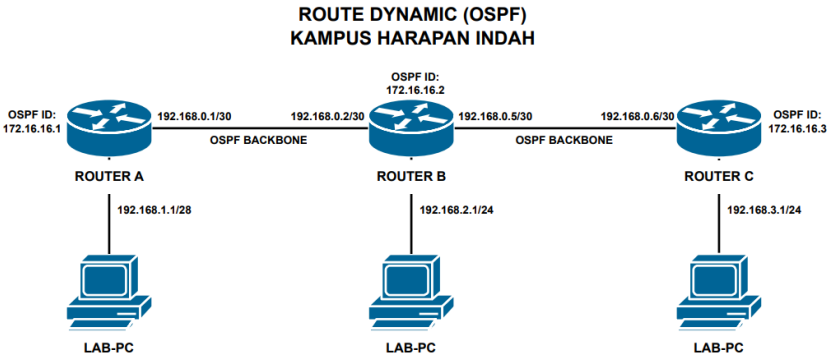
2.2.1. Kampus Kebon Jeruk (KJ)



2.2.2. Kampus Citra Raya (KCR)



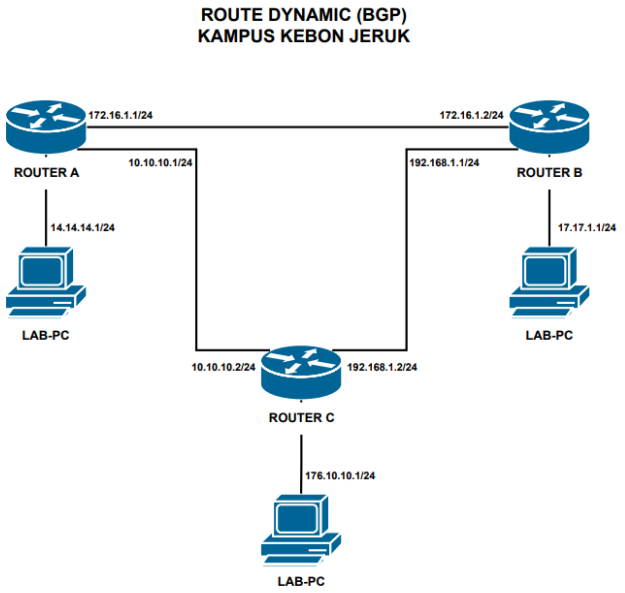
2.2.3. Kampus Harapan Indah (KHI)



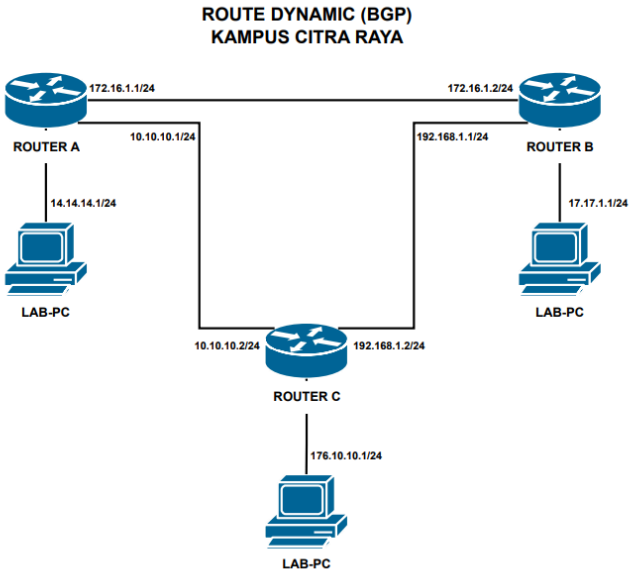
2.3. BGP (*Border Gateway Protocol*)

BGP (*Border Gateway Protocol*) adalah protokol routing inti dari internet yang digunakan untuk melakukan pertukaran informasi routing antar jaringan.

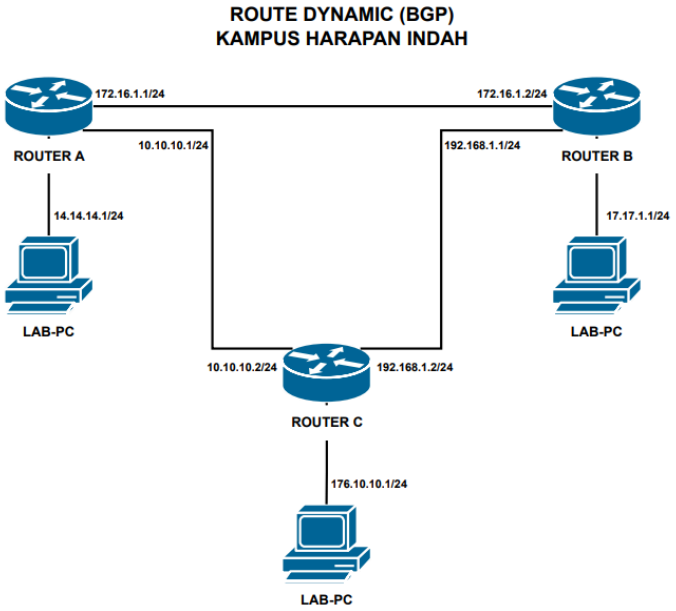
2.3.1. Kampus Kebon Jeruk (KJ)



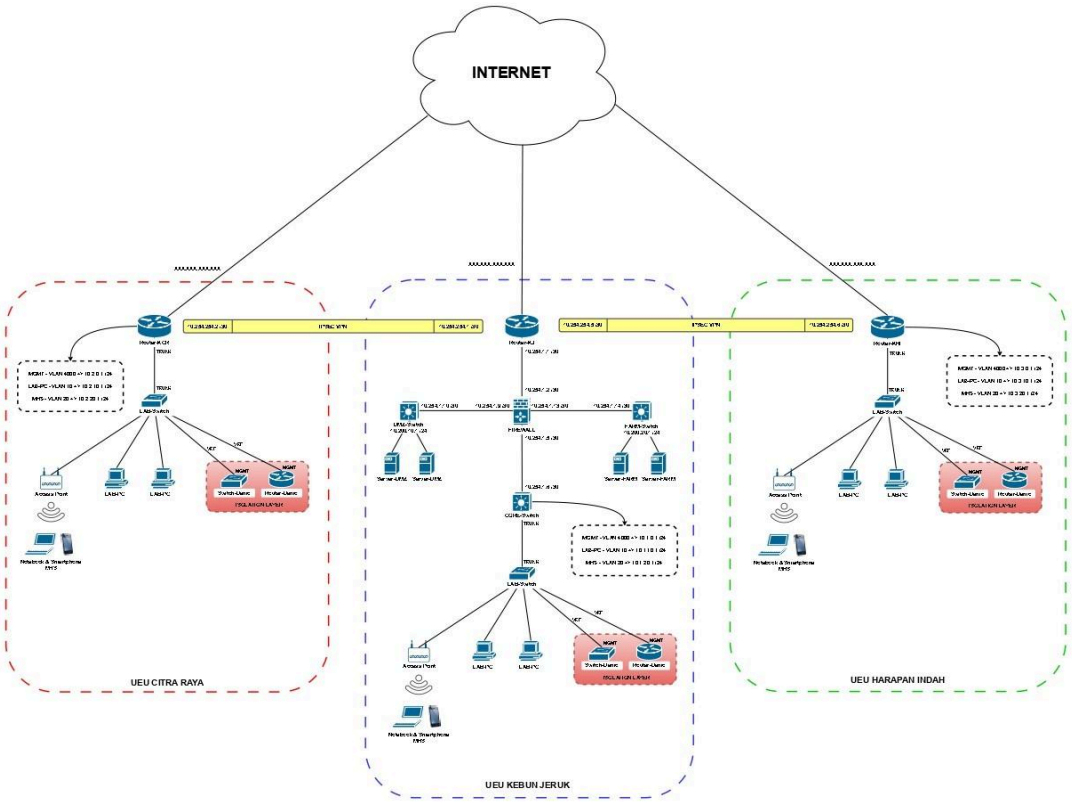
2.3.2. Kampus Citra Raya (KCR)



2.3.3. Kampus Harapan Indah (KHI)



3. Koneksi Router 3 Kampus



3.1. Router Kampus Kebon Jeruk (KJ)

```
# jan/02/1970 00:54:19 by RouterOS 6.48.7
# software id = 44UU-TR2K
#
# model = RouterBOARD 941-2nD
# serial number = A1C30BB18CA4
/system identity set name=Router-KJ
/interface vlan
add name=MGMT_VLAN4000 vlan-id=4000 interface=ether1
add name=LABPC_VLAN10 vlan-id=10 interface=ether1
add name=MHS_VLAN20 vlan-id=20 interface=ether1
/ip address
add address=10.1.0.1/24 interface=MGMT_VLAN4000
comment="Management VLAN"
add address=10.1.10.1/24 interface=LABPC_VLAN10 comment="Lab
PC VLAN"
add address=10.1.20.1/24 interface=MHS_VLAN20 comment="MHS
VLAN"
add address=10.200.10.1/24 interface=ether1 comment="LAN
Interface"
/ip route
add dst-address=0.0.0.0/0 gateway=10.254.1.1 comment="Default
Route to Internet"
/ip firewall nat
add chain=srcnat out-interface=ether1 action=masquerade
comment="NAT for Internet Access"
/ip ipsec peer
add address=10.254.254.2/32 local-address=10.254.254.1
comment="IPsec Peer for Branch Connection"
/ip ipsec proposal
set [ find default=yes ] enc-algorithms=aes-256-cbc pfs-group=none
/ip ipsec policy
```

```
add src-address=10.254.254.1/30 dst-address=10.254.254.2/30
sa-src-address=10.254.254.1 sa-dst-address=10.254.254.2
action=encrypt comment="IPsec Policy for Secure Communication"
/ip firewall filter
add chain=input connection-state=established,related action=accept
comment="Allow Established/Related Connections"
add chain=input protocol=icmp action=accept comment="Allow Ping"
add chain=input src-address=10.200.10.0/24 action=accept
comment="Allow Internal Management Access"
add chain=input action=drop comment="Drop All Other Traffic"
```

3.2. Router Kampus Citra Raya (KCR)

```
# jan/02/1970 00:57:19 by RouterOS 6.48.7
# software id = 44UU-TR2K
#
# model = RouterBOARD 941-2nD
# serial number = A1C30BB18CA4
/system identity set name=Router-CR
/interface vlan
add name=MGMT_VLAN4000 vlan-id=4000 interface=ether1
add name=LABPC_VLAN10 vlan-id=10 interface=ether1
add name=MHS_VLAN20 vlan-id=20 interface=ether1
/ip address
add address=10.2.0.1/24 interface=MGMT_VLAN4000
comment="Management VLAN"
add address=10.2.10.1/24 interface=LABPC_VLAN10 comment="Lab
PC VLAN"
add address=10.2.20.1/24 interface=MHS_VLAN20 comment="MHS
VLAN"
add address=10.254.1.9/30 interface=ether1 comment="WAN to
Router-KCR"
/ip route
add dst-address=0.0.0.0/0 gateway=10.254.1.10 comment="Default
Route to Internet"
```

```
/ip firewall nat
add chain=srcnat out-interface=ether1 action=masquerade
comment="NAT for Internet Access"
/ip ipsec peer
add address=10.254.254.2/32 local-address=10.254.254.1
comment="IPsec Peer for Branch Connection"
/ip ipsec proposal
set [ find default=yes ] enc-algorithms=aes-256-cbc pfs-group=none
/ip ipsec policy
add src-address=10.254.254.2/30 dst-address=10.254.254.1/30
sa-src-address=10.254.254.6 sa-dst-address=10.254.254.5
action=encrypt comment="IPsec Policy for Secure Communication"
/ip firewall filter
add chain=input connection-state=established,related action=accept
comment="Allow Established/Related Connections"
add chain=input protocol=icmp action=accept comment="Allow Ping"
add chain=input src-address=10.2.0.0/24 action=accept
comment="Allow Internal Management Access"
add chain=input action=drop comment="Drop All Other Traffic"
```

3.3. Router Kampus Harapan Indah (KHI)

```
# jan/02/1970 00:60:19 by RouterOS 6.48.7
# software id = 44UU-TR2K
#
# model = RouterBOARD 941-2nD
# serial number = A1C30BB18CA4
/system identity set name=Router-KHI
/interface vlan
add name=MGMT_VLAN4000 vlan-id=4000 interface=ether1
add name=LABPC_VLAN10 vlan-id=10 interface=ether1
add name=MHS_VLAN20 vlan-id=20 interface=ether1
/ip address
add address=10.3.0.1/24 interface=MGMT_VLAN4000
comment="Management VLAN"
```

```
add address=10.3.10.1/24 interface=LABPC_VLAN10 comment="Lab PC VLAN"
add address=10.3.20.1/24 interface=MHS_VLAN20 comment="MHS VLAN"
add address=10.254.1.5/30 interface=ether1 comment="WAN to Router-CR"
/ip route
add dst-address=0.0.0.0/0 gateway=10.254.1.6 comment="Default Route to Internet"
/ip firewall nat
add chain=srcnat out-interface=ether1 action=masquerade comment="NAT for Internet Access"
/ip ipsec peer
add address=10.254.254.6/32 local-address=10.254.254.5 comment="IPsec Peer for Branch Connection"
/ip ipsec proposal
set [ find default=yes ] enc-algorithms=aes-256-cbc pfs-group=none
/ip ipsec policy
add src-address=10.254.254.5/30 dst-address=10.254.254.6/30 sa-src-address=10.254.254.5 sa-dst-address=10.254.254.6 action=encrypt comment="IPsec Policy for Secure Communication"
/ip firewall filter
add chain=input connection-state=established,related action=accept comment="Allow Established/Related Connections"
add chain=input protocol=icmp action=accept comment="Allow Ping"
add chain=input src-address=10.3.0.0/24 action=accept comment="Allow Internal Management Access"
add chain=input action=drop comment="Drop All Other Traffic"
```