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Kesimpulan:

Pada saat mengerjakan soal b) sempat mengalami kendala yaitu PC tidak mau terhubung. Namun, saat saya kembali memeriksa dari hasil latihan yang ada pada soal a). saya menyadari bahwa *Port Status* belum saya aktifkan. Setelah saya aktifkan *port status* tersebut, barulah koneksi masing-masing PC berjalan dengan baik.

a) Konfigurasi *Routing* dengan 1 *Router (Config)*

1) Buka lembar kerja baru dengan klik file -> *new*.

2) Drag 2x PC-PT yang terdapat pada komponen *End Devices*.

3) Pada *device routers*, *drag router* 1841, hubungkan PC0 dan PC1 ke *Router*() menggunakan kabel *cross-over*, sehingga akan terlihat seperti gambar di bawah ini.

4) Konfirgurasi IP address PC0, dengan cara klik 2x PC0.

   Pilih tab CONFIG -> INTERFACE -> FastEthernet. Power on pada port status dan masukkan IP address dan subnet mask-nya seperti gambar di bawah ini.

5) Konfigurasi IP gateway PC0 dengan klik 2x PC0.

Pilih tab CONFIG -> GLOBAL -> Setting. Kemudian isikan IP Gateway 172.16.0.1

6) Ulangi langkah 3) dan 4) untuk konfigurasi PC1 dengan menggunakan IP address 192.168.0.2/255.255.255.0 dan IP Gateway 192.168.0.1

7) Untuk mengkonfigurasi *Router*(), klik 2x router. *Check list on* pada *port* Status kemudian pilih *tab CONFIG -> INTERFACE -> FastEthernet0/0*, dan isikan IP *address* seperti gambar di bawah ini.

8) Ulangi Langkah 6) pilih CONFIG -> INTERFACE -> FastEthernet0/1, isikan IP address 192.168.0.1/255.255.255.0.

9) Test koneksi antara PC0 ke Router0, PC0, ke PC1 ke Router0, PC1 ke PC0 dengan menggunakan *command prompt*.

a. PC0

```
C:\>ipconfig

FastEthernet0 Connection:(default port)

   Link-local IPv6 Address.........: FE80::207:ECFF:FE4B:1B22
   IP Address......................: 172.16.0.2
   Subnet Mask.....................: 255.255.0.0
   Default Gateway.................: 172.16.0.2

Bluetooth Connection:

   Link-local IPv6 Address.........: ::
   IP Address......................: 0.0.0.0
   Subnet Mask.....................: 0.0.0.0
   Default Gateway.................: 0.0.0.0
```

b. PC1

```
C:\>ipconfig

FastEthernet0 Connection:(default port)

   Link-local IPv6 Address.........: FE80::240:BFF:FEB7:2884
   IP Address......................: 192.168.0.2
   Subnet Mask.....................: 255.255.255.0
   Default Gateway.................: 192.168.0.2

Bluetooth Connection:

   Link-local IPv6 Address.........: ::
   IP Address......................: 0.0.0.0
   Subnet Mask.....................: 0.0.0.0
   Default Gateway.................: 0.0.0.0
```

10) Kemudian simpan dengan nama *router1*.

11) Catat hasilnya, apakah semua PC dapat terhubung? Semua PC dapat terhubung dengan baik.

b) Buat simulasi jaringan komputer di bawah ini

1) Buatlah simulasi jaringan seperti gambar di bawah ini

2) Kemudian konfigurasi IP address dan subnet mark menggunakan CONFIG.

a) PC0

b) PC1

PC1
Physical
Config
Desktop
Programming
Attributes
GLOBAL
Settings
Algorithm Settings
INTERFACE
FastEthernet0
Bluetooth
Global Settings
Display Name
PC1
Interfaces
FastEthernet0
Gateway/DNS IPv4
DHCP
Static
Gateway
10.0.0.1

c) Router0

Router0
Cisco Packet Tracer
Router0
Physical
Config
CLI
Attributes
GLOBAL
Settings
Algorithm Settings
ROUTING
Static
RIP
SWITCHING
VLAN Database
FastEthernet0/0
Port Status
On
Bandwidth
100 Mbps
10 Mbps
Auto
Duplex
Half Duplex
Full Duplex
Auto
MAC Address
0009.7CB4.2D01
IP Configuration
IP Address
10.0.0.1
Subnet Mask
255.0.0.0

Router0
Cisco Packet Tracer
Router0
Physical
Config
CLI
Attributes
GLOBAL
Settings
Algorithm Settings
ROUTING
Static
RIP
SWITCHING
VLAN Database
INTERFACE
FastEthernet0/1
Port Status
On
Bandwidth
100 Mbps
10 Mbps
Auto
Duplex
Half Duplex
Full Duplex
Auto
MAC Address
0009.7CB4.2D02
IP Configuration
IP Address
172.16.0.1
Subnet Mask
255.255.0.0

d) PC2

PC2
Physical
Config
Desktop
Programming
Attributes
Command Prompt
X
Packet Tracer PC Command Line 1.0
C:\>ipconfig 10.0.0.1 255.0.0.0
C:\>ipconfig
FastEthernet0 Connection:(default port)
Link-local IPv6 Address.....: FE80::20A:F3FF:FEBB:32BA
IP Address.....: 10.0.0.1
Subnet Mask.....: 255.0.0.0
Default Gateway.....: 0.0.0.0
Bluetooth Connection:
Link-local IPv6 Address.....: ::
IP Address.....: 0.0.0.0
Subnet Mask.....: 0.0.0.0
Default Gateway.....: 0.0.0.0
C:\>ipconfig 172.16.0.2 255.255.0.0
C:\>ipconfig
FastEthernet0 Connection:(default port)
Link-local IPv6 Address.....: FE80::20A:F3FF:FEBB:32BA
IP Address.....: 172.16.0.2
Subnet Mask.....: 255.255.0.0

PC2
Physical
Config
Desktop
Programming
Attributes
GLOBAL
Settings
Algorithm Settings
INTERFACE
FastEthernet0
Bluetooth
Global Settings
Display Name
PC2
Interfaces
FastEthernet0
Gateway/DNS IPv4
DHCP
Static
Gateway
172.16.0.1

e) PC4

PC3
Physical
Config
Desktop
Programming
Attributes
Command Prompt
X
Packet Tracer PC Command Line 1.0
C:\>ipconfig 172.16.0.1 255.255.0.0
C:\>ipconfig
FastEthernet0 Connection:(default port)
Link-local IPv6 Address.....: FE80::2E0:8FFF:FE76:1254
IP Address.....: 172.16.0.1
Subnet Mask.....: 255.255.0.0

3) Test koneksinya menggunakan *command promt*.

a) PC0

```
FastEthernet0 Connection:(default port)

   Link-local IPv6 Address.........: FE80::2D0:BAFF:FE9C:4793
   IP Address......................: 10.0.0.2
   Subnet Mask.....................: 255.0.0.0
   Default Gateway.................: 10.0.0.1

Bluetooth Connection:

   Link-local IPv6 Address.........: ::
   IP Address......................: 0.0.0.0
   Subnet Mask.....................: 0.0.0.0
   Default Gateway.................: 0.0.0.0
```

b) PC1

```
FastEthernet0 Connection:(default port)

   Link-local IPv6 Address.........: FE80::2E0:8FFF:FEAA:B93E
   IP Address......................: 10.0.0.3
   Subnet Mask.....................: 255.0.0.0
   Default Gateway.................: 10.0.0.1

Bluetooth Connection:

   Link-local IPv6 Address.........: ::
   IP Address......................: 0.0.0.0
   Subnet Mask.....................: 0.0.0.0
   Default Gateway.................: 0.0.0.0
```

c) PC2

```
FastEthernet0 Connection:(default port)

   Link-local IPv6 Address.........: FE80::20A:F3FF:FEBB:32BA
   IP Address......................: 172.16.0.2
   Subnet Mask.....................: 255.255.0.0
   Default Gateway.................: 172.16.0.1

Bluetooth Connection:

   Link-local IPv6 Address.........: ::
   IP Address......................: 0.0.0.0
   Subnet Mask.....................: 0.0.0.0
   Default Gateway.................: 0.0.0.0
```

d) PC3

```
FastEthernet0 Connection:(default port)

   Link-local IPv6 Address.........: FE80::2E0:8FFF:FE76:1254
   IP Address......................: 172.16.0.1
   Subnet Mask.....................: 255.255.0.0
   Default Gateway.................: 172.16.0.1

Bluetooth Connection:

   Link-local IPv6 Address.........: ::
   IP Address......................: 0.0.0.0
   Subnet Mask.....................: 0.0.0.0
   Default Gateway.................: 0.0.0.0
```

4) Simpan dengan nama router2.

5) Catat hasilnya, apakah semua PC dapat terhubung? Ya! Semua PC terhubung.

c) Konfigurasi Router dengan 2 Router (CLI)

1) Drag 4x PC-PT yang terdapat pada komponen End Device.
   (lampiran foto tugas ada di poin 2)
2) Pada device Router, drag 3x router 1841, kemudian drag 2x switch yang terdapat pada device Switches. Hubungkan device-device tersebut hingga terlihat seperti gambar di bawah ini.

3) Konfigurasi IP Address dan subnet pada PC0, PC1, PC2 dan PC3 dengan ketentuan sebagai berikut:
   a) PC0

```
C:\>ipconfig 10.0.0.2 255.0.0.0
C:\>ipconfig

FastEthernet0 Connection:(default port)

   Link-local IPv6 Address.........: FE80::260:3EFF:FEB5:D1E5
   IP Address......................: 10.0.0.2
   Subnet Mask.....................: 255.0.0.0
```

PC0
Physical
Config
Desktop
Programming
Attributes
GLOBAL
Settings
Algorithm Settings
INTERFACE
FastEthernet0
Bluetooth
Global Settings
Display Name
PC0
Interfaces
FastEthernet0
Gateway/DNS IPv4
DHCP
Static
Gateway
10.0.0.1

b) PC1

PC1
Physical
Config
Desktop
Programming
Command Prompt
Packet Tracer PC Command Line 1.0
C:\>ipconfig 10.0.0.3 255.0.0.0
C:\>ipconfig
FastEthernet0 Connection:(default port)
Link-local IPv6 Address.....: FE80::202:4AFF:FE55:A9B
IP Address.....: 10.0.0.3
Subnet Mask.....: 255.0.0.0

PC1
Physical
Config
Desktop
Programming
Attributes
GLOBAL
Settings
Algorithm Settings
INTERFACE
FastEthernet0
Bluetooth
Global Settings
Display Name
PC1
Interfaces
FastEthernet0
Gateway/DNS IPv4
DHCP
Static
Gateway
10.0.0.1

c) PC2

PC2
Physical
Config
Desktop
Programming
Attributes
Command Prompt
X
Packet Tracer PC Command Line 1.0
C:\>ipconfig 172.31.0.2 255.255.0.0
C:\>ipconfig
FastEthernet0 Connection:(default port)
Link-local IPv6 Address.....: FE80::2E0:A3FF:FE09:8953
IP Address.....: 172.31.0.2
Subnet Mask.....: 255.255.0.0

d) PC3

4) Konfigurasi ketiga router menggunakan CLI.

Langkah 1: Klik 2x Router0. Pilih tab CLI.

Catat hasilnya apakah semua PC terhubung! Ya, semua PC terhubung!