TUGAS MODUL 3

Praktikum Jaringan Komputer 2022

Dosen Pengampu : I Ketut Purnamawan

Oleh:

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Kelompok 1:

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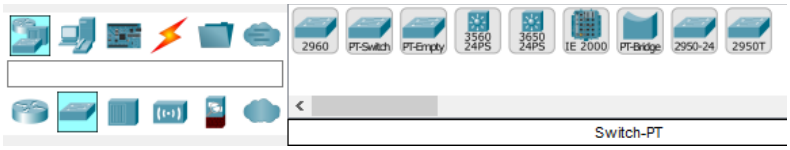
Kasus:

Terdapat tiga buah gedung, setiap gedung harus bisa saling berhubungan, Gedung A memiliki 3 kelas, Gedung B memiliki dua kelas, dan Gedung C hanya memiliki satu kelas. Setiap kelas harus meimiliki komputer dan printer serta switch, untuk Server hanya ada di Gedung A.

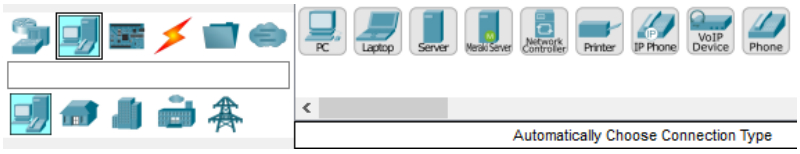
Jawab:

Pada kasus ini, saya membuat 3 gedung dengan 1 jaringan yang sama yaitu 192.168.1.0 /24. Setiap kelas memiliki 1 Printer dan Komputer, pada skema saya membuat 3 PC setiap PC mewakilkan 30 PC di dunia nyata, maka dari itu dibutuhkan switcher sebagai penghubung agar lebih efektif dan efisien terlebih dalam pengiriman dan konektifitas jaringan, 10 PC memiliki 1 Switcher dengan 16port. Setiap Gedung terhubung oleh Switcher Gedung masing-masing dan switcher itu akan terhubung ke Server di Gedung A agar komputer di gedung lain dapat mengakses dan terhubung ke Server.

1. Buka Paket Tracer
2. Login dengan akun
3. Bahan yang dipakai :
    a. Network Devices >> PT-Switch

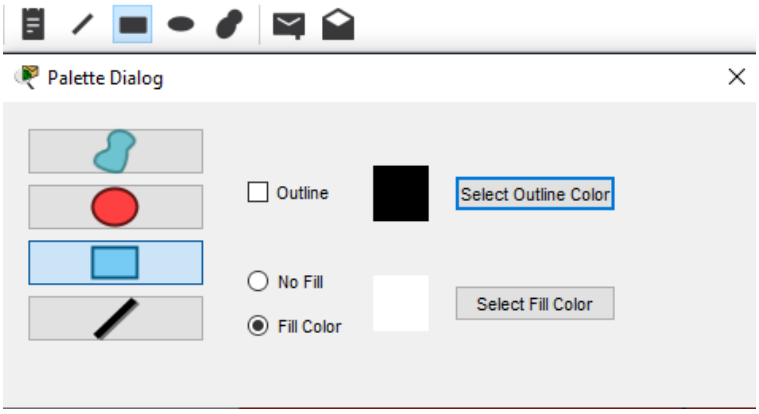


    b. End Devices >> Server, PC, Printer



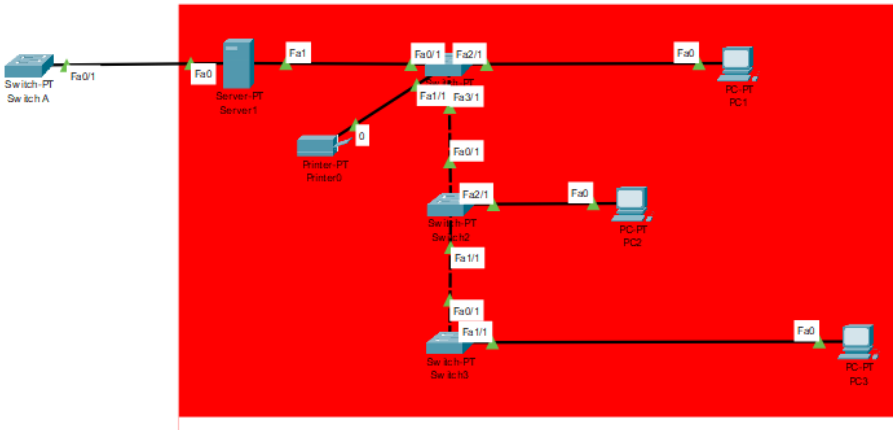
    c. Connections >> Straight Cable / Cross Cable

    d. Buat gedung dan kelas nya dengan menggunakan “Pallate Dialog”



4. Menentukan Skema Jaringan
   - Membuat Skema Gedung A:
     a. Letakkan pada layar di kelas A-1:
        - 1 Server : 192.168.1.1 /24
        - 1 Printer : 192.168.1.2 /24
        - PC-Sw1 : 192.168.1.3 – 13 /24
        - Switch1
        - PC-Sw2 : 192.168.1.14 – 24 /24
        - Switch2
        - PC-Sw3 : 192.168.1.25 – 35 /24
        - Switch3
        - SwitchA

     b. Sambungkan antar Device dengan kabel;
        - Switcher – Switcher = Kabel Cross
        - PC – Switcher = Kabel Straight
        - Server – Switcher = Kabel Straight
        - Printer – Switcher = Kabel Straight



Server:

```
Device Name: Server1
Device Model: Server-PT

Port            Link   IP Address         IPv6 Address                            MAC Address
FastEthernet0   Up     192.168.1.1/24     <not set>                               0006.2A3D.18EE
FastEthernet1   Up     <not set>          <not set>                               0003.E4A4.6A61

Gateway: <not set>
DNS Server: <not set>
Line Number:  <not set>

Physical Location: Intercity > Home City > Corporate Office > Main Wiring Closet > Rack > Server1
```

Printer:

```
Device Name: Printer0
Device Model: Printer-PT

Port            Link   IP Address         IPv6 Address                            MAC Address
FastEthernet0   Up     192.168.1.2/24     <not set>                               000B.BE36.B075

Gateway: <not set>
DNS Server: <not set>
Line Number:  <not set>

Physical Location: Intercity > Home City > Corporate Office > Printer0
```

PC-Sw1:

```
Device Name: PC1
Device Model: PC-PT

Port            Link   IP Address         IPv6 Address                            MAC Address
FastEthernet0   Up     192.168.1.3/24     <not set>                               0002.1732.B5B6
Bluetooth       Down   <not set>          <not set>                               0090.213C.79B7

Gateway: 192.168.1.1
DNS Server: <not set>
Line Number:  <not set>

Physical Location: Intercity > Home City > Corporate Office > PC4
```

PC-Sw2:

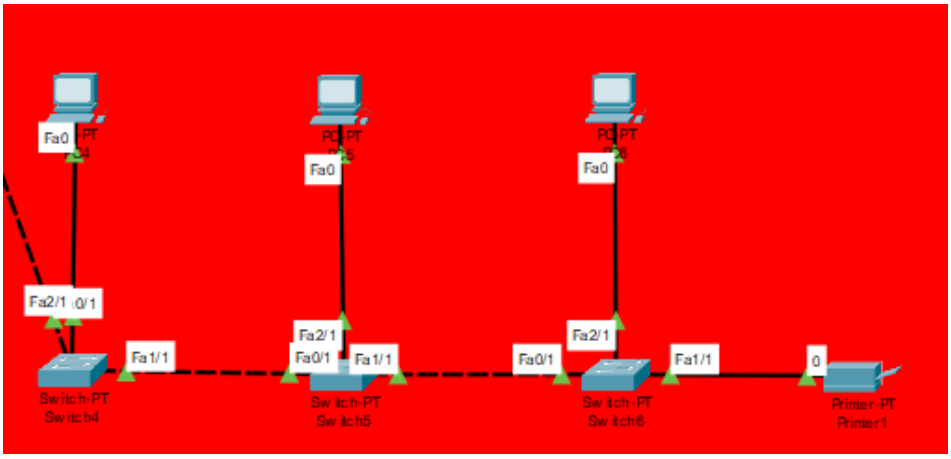
```
Device Name: PC2
Device Model: PC-PT

Port            Link   IP Address         IPv6 Address                            MAC Address
FastEthernet0   Up     192.168.1.14/24    <not set>                               00D0.BC3E.036C
Bluetooth       Down   <not set>          <not set>                               0009.7C3E.8AB2

Gateway: 192.168.1.1
DNS Server: <not set>
Line Number:  <not set>

Physical Location: Intercity > Home City > Corporate Office > PC5
```

PC-Sw3:

```
Device Name: PC3
Device Model: PC-PT

Port            Link   IP Address         IPv6 Address                            MAC Address
FastEthernet0   Up     <not set>          <not set>                               0007.ECC3.8C93
Bluetooth       Down   <not set>          <not set>                               0005.5E85.3C5D

Gateway: <not set>
DNS Server: <not set>
Line Number:  <not set>

Physical Location: Intercity > Home City > Corporate Office > PC6
```

c. Letakkan pada layar di kelas A-2:
   - 1 Printer : 192.168.1.40 /24
   - PC-Sw4 : 192.168.1.41 – 51 /24
   - Switch4
   - PC-Sw5 : 192.168.1.52 – 62 /24
   - Switch5
   - PC-Sw6 : 192.168.1.63 – 64 /24
   - Switch6

d. Sambungkan antar Device dengan kabel;
   - Switcher – Switcher = Kabel Cross
   - PC – Switcher = Kabel Straight
   - Printer – Switcher = Kabel Straight



Printer:

```
Device Name: Printer1
Device Model: Printer-PT

Port            Link   IP Address         IPv6 Address                          MAC Address
FastEthernet0   Up     192.168.1.40/24    <not set>                             00E0.8F0D.3501

Gateway: <not set>
DNS Server: <not set>
Line Number:  <not set>

Physical Location: Intercity > Home City > Corporate Office > Printer1
```

PC-Sw4:

```
Device Name: PC4
Device Model: PC-PT

Port            Link   IP Address         IPv6 Address                          MAC Address
FastEthernet0   Up     192.168.1.41/24    <not set>                             0030.F2DD.1396
Bluetooth       Down   <not set>          <not set>                             00D0.581D.897E

Gateway: 192.168.1.1
DNS Server: <not set>
Line Number:  <not set>

Physical Location: Intercity > Home City > Corporate Office > PC7
```

PC-Sw5:

```
Device Name: PC5
Device Model: PC-PT

Port            Link   IP Address         IPv6 Address                          MAC Address
FastEthernet0   Up     192.168.1.52/24    <not set>                             0001.9714.6892
Bluetooth       Down   <not set>          <not set>                             0001.9793.A0C5

Gateway: 192.168.1.1
DNS Server: <not set>
Line Number:  <not set>

Physical Location: Intercity > Home City > Corporate Office > PC8
```

PC-Sw6:

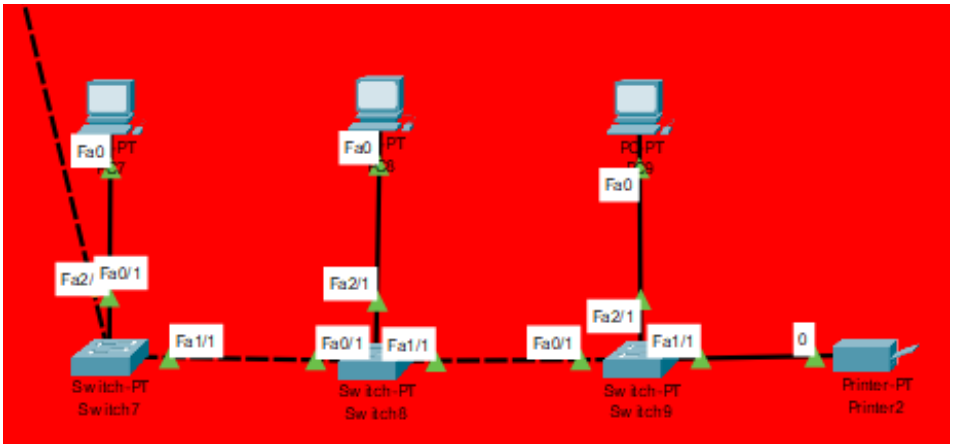
```
Device Name: PC6
Device Model: PC-PT

Port            Link   IP Address         IPv6 Address                          MAC Address
FastEthernet0   Up     192.168.1.63/24    <not set>                             00D0.FF39.32CB
Bluetooth       Down   <not set>          <not set>                             0010.110C.0216

Gateway: 192.168.1.1
DNS Server: <not set>
Line Number:  <not set>

Physical Location: Intercity > Home City > Corporate Office > PC9
```

e. Letakkan pada layar di kelas A-3:

- 1 Printer : 192.168.1.70 /24
- PC-Sw4 : 192.168.1.71 – 81 /24
- Switch4
- PC-Sw5 : 192.168.1.82 – 92 /24
- Switch5
- PC-Sw6 : 192.168.1.93 – 104 /24
- Switch6

f. Sambungkan antar Device dengan kabel;

- Switcher – Switcher = Kabel Cross
- PC – Switcher = Kabel Straight
- Printer – Switcher = Kabel Straight



Printer:

```
Device Name: Printer2
Device Model: Printer-PT

Port            Link   IP Address        IPv6 Address                          MAC Address
FastEthernet0   Up     192.168.1.70/24   <not set>                             000A.F3DE.2858

Gateway: <not set>
DNS Server: <not set>
Line Number:  <not set>

Physical Location: Intercity > Home City > Corporate Office > Printer2
```

PC-Sw7 :

```
Device Name: PC7
Device Model: PC-PT

Port            Link   IP Address        IPv6 Address                          MAC Address
FastEthernet0   Up     192.168.1.71/24   <not set>                             0001.C72A.5582
Bluetooth       Down   <not set>         <not set>                             0004.9AE8.12DC

Gateway: 192.168.1.1
DNS Server: <not set>
Line Number:  <not set>

Physical Location: Intercity > Home City > Corporate Office > PC7
```

PC-Sw8 :

```
Device Name: PC8
Device Model: PC-PT

Port            Link   IP Address        IPv6 Address                          MAC Address
FastEthernet0   Up     192.168.1.82/24   <not set>                             00E0.B07E.23B4
Bluetooth       Down   <not set>         <not set>                             0090.0C13.2308

Gateway: 192.168.1.1
DNS Server: <not set>
Line Number:  <not set>

Physical Location: Intercity > Home City > Corporate Office > PC8
```

PC-Sw9 :

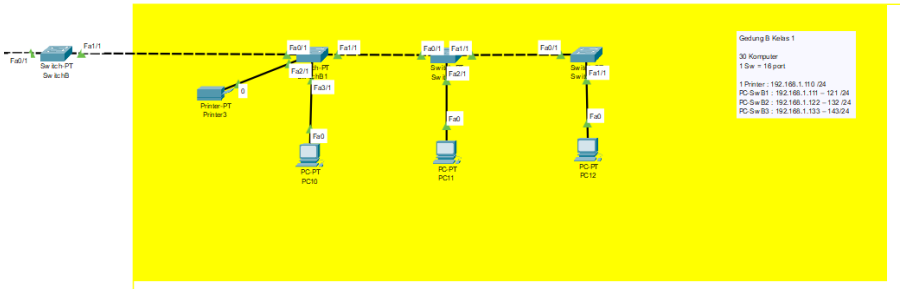
```
Device Name: PC9
Device Model: PC-PT

Port            Link   IP Address        IPv6 Address                          MAC Address
FastEthernet0   Up     192.168.1.93/24   <not set>                             00D0.9782.B458
Bluetooth       Down   <not set>         <not set>                             0002.1643.3864

Gateway: 192.168.1.1
DNS Server: <not set>
Line Number:  <not set>

Physical Location: Intercity > Home City > Corporate Office > PC9
```

- Membuat Skema Gedung B:

a. Letakkan pada layar di kelas B-1:

- 1 Printer : 192.168.1.110 /24
- PC-SwB1 : 192.168.1.111 – 121 /24
- PC-SwB2 : 192.168.1.122 – 132 /24
- PC-SwB3 : 192.168.1.133 – 143/24
- Switcher B
- Switcher B1
- Switcher B2
- Switcher B3

b. Sambungkan antar Device dengan kabel;
- Switcher – Switcher = Kabel Cross
- PC – Switcher = Kabel Straight
- Printer – Switcher = Kabel Straight



Printer:

```
Device Name: Printer3
Device Model: Printer-PT

Port            Link   IP Address         IPv6 Address                          MAC Address
FastEthernet0   Up     192.168.1.110/24   <not set>                             00D0.5868.E734

Gateway: <not set>
DNS Server: <not set>
Line Number:  <not set>

Physical Location: Intercity > Home City > Corporate Office > Printer3
```

PC-SwB1 :

```
Device Name: PC10
Device Model: PC-PT

Port            Link   IP Address         IPv6 Address                          MAC Address
FastEthernet0   Up     192.168.1.111/24   <not set>                             0001.423C.E332
Bluetooth       Down   <not set>          <not set>                             0002.4A35.6B9C

Gateway: 192.168.1.1
DNS Server: <not set>
Line Number:  <not set>

Physical Location: Intercity > Home City > Corporate Office > PC13
```

PC-SwB2 :

```
Device Name: PC11
Device Model: PC-PT

Port            Link   IP Address         IPv6 Address                          MAC Address
FastEthernet0   Up     192.168.1.122/24   <not set>                             0090.0C46.B394
Bluetooth       Down   <not set>          <not set>                             0010.1160.AE3C

Gateway: 192.168.1.1
DNS Server: <not set>
Line Number:  <not set>

Physical Location: Intercity > Home City > Corporate Office > PC14
```

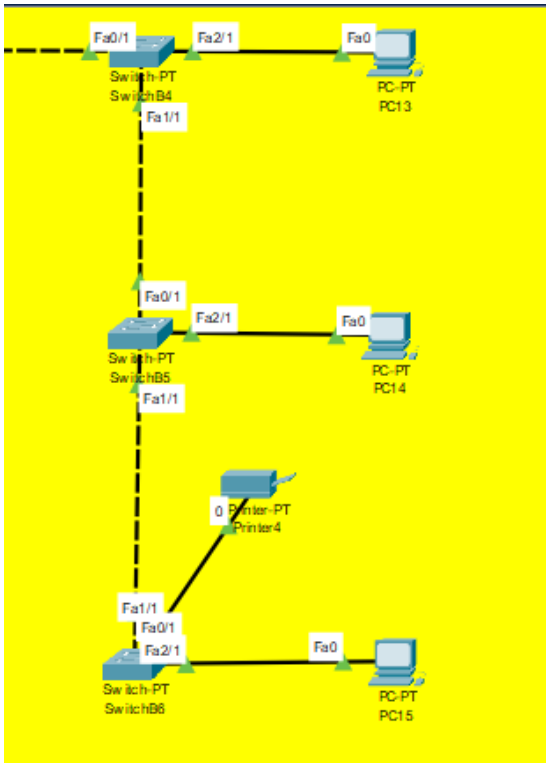
PC-SwB3 :

```
Device Name: PC12
Device Model: PC-PT

Port            Link   IP Address         IPv6 Address                          MAC Address
FastEthernet0   Up     192.168.1.133/24   <not set>                             0007.ECC0.3CDD
Bluetooth       Down   <not set>          <not set>                             0050.0FCD.7254

Gateway: 192.168.1.1
DNS Server: <not set>
Line Number:  <not set>

Physical Location: Intercity > Home City > Corporate Office > PC15
```

c. Letakkan pada layar di kelas B-2:
- 1 Printer : 192.168.1.150 /24

- PC-SwB4 : 192.168.1.151 – 161 /24
- PC-SwB5 : 192.168.1.162 – 172 /24
- PC-SwB6 : 192.168.1.173 – 183/24
- Switcher B4
- Switcher B5
- Switcher B6

d. Sambungkan antar Device dengan kabel;
   - Switcher – Switcher = Kabel Cross
   - PC – Switcher = Kabel Straight
   - Printer – Switcher = Kabel Straight



Printer :

```
Device Name: Printer4
Device Model: Printer-PT

Port            Link   IP Address         IPv6 Address                          MAC Address
FastEthernet0   Up     192.168.1.150/24   <not set>                             000A.4115.9B78

Gateway: <not set>
DNS Server: <not set>
Line Number:  <not set>

Physical Location: Intercity > Home City > Corporate Office > Printer4
```

PC-SwB4:

```
Device Name: PC13
Device Model: PC-PT

Port            Link   IP Address         IPv6 Address                          MAC Address
FastEthernet0   Up     192.168.1.51/24    <not set>                             00D0.BC9C.06D2
Bluetooth       Down   <not set>          <not set>                             0002.4A4B.E66B

Gateway: 192.168.1.1
DNS Server: <not set>
Line Number:  <not set>

Physical Location: Intercity > Home City > Corporate Office > PC16
```

PC-SwB5:

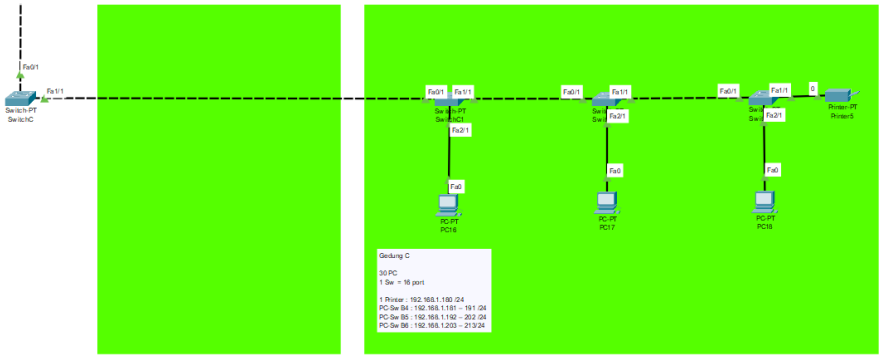
```
Device Name: PC14
Device Model: PC-PT

Port            Link   IP Address         IPv6 Address                          MAC Address
FastEthernet0   Up     192.168.1.162/24   <not set>                             0040.0B15.706E
Bluetooth       Down   <not set>          <not set>                             0001.C969.3377

Gateway: 192.168.1.1
DNS Server: <not set>
Line Number:  <not set>

Physical Location: Intercity > Home City > Corporate Office > PC17
```

PC-SwB6:

```
Device Name: PC15
Device Model: PC-PT

Port            Link   IP Address         IPv6 Address                          MAC Address
FastEthernet0   Up     192.168.1.73/24    <not set>                             0090.2149.160C
Bluetooth       Down   <not set>          <not set>                             0005.5EC1.4A97

Gateway: 192.168.1.1
DNS Server: <not set>
Line Number:  <not set>

Physical Location: Intercity > Home City > Corporate Office > PC18
```

- Membuat Skema Gedung C:
  a. Letakkan pada layar di kelas B-2:
     - 1 Printer : 192.168.1.150 /24
     - PC-SwC1 : 192.168.1.151 – 161 /24
     - PC-SwC2 : 192.168.1.162 – 172 /24
     - PC-SwC3 : 192.168.1.173 – 183/24
     - Switcher C1
     - Switcher C2
     - Switcher C3
     - Switcher C

  b. Sambungkan antar Device dengan kabel;
     - Switcher – Switcher = Kabel Cross
     - PC – Switcher = Kabel Straight
     - Printer – Switcher = Kabel Straight



  c. Printer:

```
Device Name: Printer5
Device Model: Printer-PT

Port            Link   IP Address         IPv6 Address                          MAC Address
FastEthernet0   Up     192.168.1.80/24    <not set>                             00D0.BA1B.1387

Gateway: <not set>
DNS Server: <not set>
Line Number:  <not set>

Physical Location: Intercity > Home City > Corporate Office > Printer5
```

PC-SwC1:

```
Device Name: PC16
Device Model: PC-PT

Port            Link   IP Address        IPv6 Address                          MAC Address
FastEthernet0   Up     192.168.1.81/24   <not set>                             0001.43DE.A55D
Bluetooth       Down   <not set>         <not set>                             0060.707C.8D5A

Gateway: 192.168.1.1
DNS Server: <not set>
Line Number:  <not set>

Physical Location: Intercity > Home City > Corporate Office > PC19
```

PC-SwC2:

```
Device Name: PC17
Device Model: PC-PT

Port            Link   IP Address        IPv6 Address                          MAC Address
FastEthernet0   Up     192.168.1.92/24   <not set>                             0030.A330.A498
Bluetooth       Down   <not set>         <not set>                             00E0.F794.CCC8

Gateway: 192.168.1.1
DNS Server: <not set>
Line Number:  <not set>

Physical Location: Intercity > Home City > Corporate Office > PC20
```

PC-SwC3:

```
Device Name: PC18
Device Model: PC-PT

Port            Link   IP Address        IPv6 Address                          MAC Address
FastEthernet0   Up     192.168.1.203/24  <not set>                             000A.4172.204D
Bluetooth       Down   <not set>         <not set>                             00E0.B09A.A265

Gateway: 192.168.1.1
DNS Server: <not set>
Line Number:  <not set>

Physical Location: Intercity > Home City > Corporate Office > PC21
```

5. Isikan IP Gateway pada setiap PC dengan IP Server 192.168.1.1 agar PC dapat mengases server, melakukan sharing file bahkan hingga membuka web yang ada di Server.
6. Lakukan Test Ping pada server ke setiap printer untuk mengetahui sudah terhubung atau belum di setiap kelas dan gedung.
   - Server ke setiap Printer Gedung A:

Fire	Last Status	Source	Destination	Type	Color	Time(sec)	Periodic	Num	Edit
	Failed	Server1	Printer0	ICMP		0.000	N	0	(edit)
	Successful	Server1	Printer1	ICMP		0.000	N	1	(edit)
	Successful	Server1	Printer2	ICMP		0.000	N	2	(edit)

   - Server ke setiap Printer Gedung B:

Fire	Last Status	Source	Destination	Type	Color	Time(sec)	Periodic	Num	Edit
	Successful	Server1	Printer3	ICMP		0.000	N	0	(edit)
	Successful	Server1	Printer4	ICMP		0.000	N	1	(edit)

   - Server ke setiap Printer Gedung B:

Fire	Last Status	Source	Destination	Type	Color	Time(sec)	Periodic	Num	Edit
	Successful	Server1	Printer5	ICMP		0.000	N	0	(edit)

Dengan melakukan test ping pada server ke setiap printer kelas di semua gedung dan hasil test adalah TTL atau berhasil terhubung dan terkoneksi maka PC di setiap kelas pun sudah pasti terhubung jika pemberian dan pengisian IP sesuai dengan jaringan yang dipakai 192.168.1.0/24 .