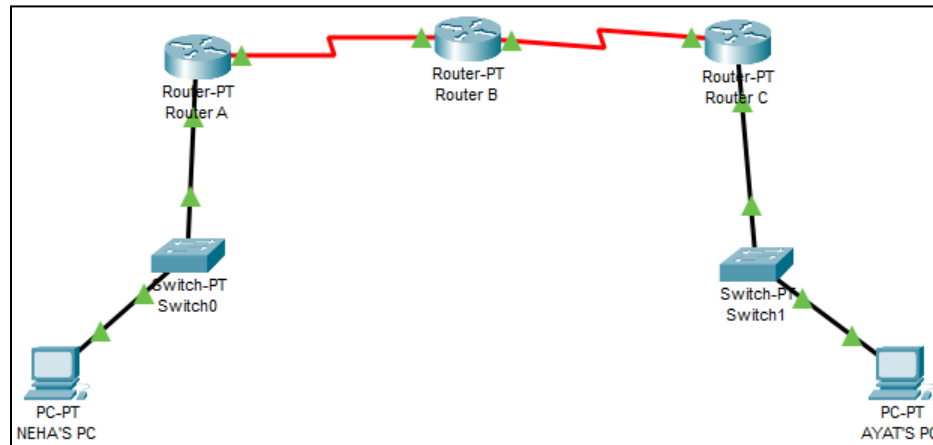# CCN LAB 5

INTERFACING

Router A:

```
Router#config
Configuring from terminal, memory, or network [terminal]? t
Enter configuration commands, one per line.  End with CNTL/Z.
Router(config)#interface fa0/0
Router(config-if)#ip address 172.16.10.1 255.255.255.0
Router(config-if)#no shutdown

Router(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

Router(config-if)#exit
Router(config)#interface se2/0
Router(config-if)#ip address 192.168.10.1 255.255.255.0
Router(config-if)#clock rate 64000
Router(config-if)#no shutdown

%LINK-5-CHANGED: Interface Serial2/0, changed state to down
```

Router B:

```
Router>en
Router#config
Configuring from terminal, memory, or network [terminal]? t
Enter configuration commands, one per line.  End with CNTL/Z.
Router(config)#interface se3/0
Router(config-if)#ip address 192.168.20.1 255.255.255.0
Router(config-if)#clock rate 64000
Router(config-if)#no shutdown

%LINK-5-CHANGED: Interface Serial3/0, changed state to down
Router(config-if)#exit
Router(config)#interface se2/0
Router(config-if)#ip address 192.168.10.2 255.255.255.0
Router(config-if)#clock rate 64000
This command applies only to DCE interfaces
Router(config-if)#clock rate 64000
This command applies only to DCE interfaces
Router(config-if)#no shutdown

Router(config-if)#
%LINK-5-CHANGED: Interface Serial2/0, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial2/0, changed state to up

%LINK-5-CHANGED: Interface Serial3/0, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial3/0, changed state to up
```

Router C:

```
Router>en
Router#config t
Enter configuration commands, one per line.  End with CNTL/Z.
Router(config)#interface se2/0
Router(config-if)#ip address 192.168.20.2 255.255.255.0
Router(config-if)#clock rate 64000
This command applies only to DCE interfaces
Router(config-if)#no shutdown

Router(config-if)#
%LINK-5-CHANGED: Interface Serial2/0, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial2/0, changed state to up

Router(config-if)#exit
Router(config)#interface fa0/0
Router(config-if)#ip address 10.0.0.1 255.0.0.0
Router(config-if)#no shutdown

Router(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
```

RIP COMMANDS (CONFIGURING RIP)

Router A:

```
Router(config)#router rip
Router(config-router)#network 172.16.10.0
Router(config-router)#network 192.168.10.0
```

Router B:

```
Router(config)#router rip
Router(config-router)#network 192.168.10.0
Router(config-router)#network 192.168.20.0
```

Router C:

```
Router(config)#router rip
Router(config-router)#network 10.0.0.0
Router(config-router)#network 192.168.20.0
```

ROUTING TABLES

Router A:

```
Router#show ip route
Codes: C - connected, S - static, I - IGRP, R - RIP, M - mobile, B - BGP
       D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area
       N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2
       E1 - OSPF external type 1, E2 - OSPF external type 2, E - EGP
       i - IS-IS, L1 - IS-IS level-1, L2 - IS-IS level-2, ia - IS-IS inter area
       * - candidate default, U - per-user static route, o - ODR
       P - periodic downloaded static route

Gateway of last resort is not set

     172.16.0.0/24 is subnetted, 1 subnets
C       172.16.10.0 is directly connected, FastEthernet0/0
C    192.168.10.0/24 is directly connected, Serial2/0
R    192.168.20.0/24 [120/1] via 192.168.10.2, 00:00:25, Serial2/0
```

Router B:

```
Router#show ip route
Codes: C - connected, S - static, I - IGRP, R - RIP, M - mobile, B - BGP
       D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area
       N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2
       E1 - OSPF external type 1, E2 - OSPF external type 2, E - EGP
       i - IS-IS, L1 - IS-IS level-1, L2 - IS-IS level-2, ia - IS-IS inter area
       * - candidate default, U - per-user static route, o - ODR
       P - periodic downloaded static route

Gateway of last resort is not set

R    172.16.0.0/16 [120/1] via 192.168.10.1, 00:00:14, Serial2/0
C    192.168.10.0/24 is directly connected, Serial2/0
C    192.168.20.0/24 is directly connected, Serial3/0
```

Router C:

```
Router#show ip route
Codes: C - connected, S - static, I - IGRP, R - RIP, M - mobile, B - BGP
       D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area
       N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2
       E1 - OSPF external type 1, E2 - OSPF external type 2, E - EGP
       i - IS-IS, L1 - IS-IS level-1, L2 - IS-IS level-2, ia - IS-IS inter area
       * - candidate default, U - per-user static route, o - ODR
       P - periodic downloaded static route

Gateway of last resort is not set

C    10.0.0.0/8 is directly connected, FastEthernet0/0
C    192.168.20.0/24 is directly connected, Serial2/0
```

RIP COMMANDS (CONFIGURING RIP VERSION 2)

Router A:

```
Router(config)#router rip
Router(config-router)#version 2
Router(config-router)#network 172.16.10.0
Router(config-router)#192.168.10.0
                      ^
% Invalid input detected at '^' marker.

Router(config-router)#network 192.168.10.0
Router(config-router)#exit
```

Router B:

```
Router(config)#router rip
Router(config-router)#version 2
Router(config-router)#network 192.168.10.0
Router(config-router)#network 192.168.20.0
Router(config-router)#
```

Router C:

```
Router(config)#router rip
Router(config-router)#version 2
Router(config-router)#network 10.0.0.0
Router(config-router)#network 192.168.20.0
```

ROUTING TABLES

Router A:

```
Router#show ip route
Codes: C - connected, S - static, I - IGRP, R - RIP, M - mobile, B - BGP
       D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area
       N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2
       E1 - OSPF external type 1, E2 - OSPF external type 2, E - EGP
       i - IS-IS, L1 - IS-IS level-1, L2 - IS-IS level-2, ia - IS-IS inter area
       * - candidate default, U - per-user static route, o - ODR
       P - periodic downloaded static route

Gateway of last resort is not set

R    10.0.0.0/8 [120/2] via 192.168.10.2, 00:00:23, Serial2/0
     172.16.0.0/24 is subnetted, 1 subnets
C       172.16.10.0 is directly connected, FastEthernet0/0
C    192.168.10.0/24 is directly connected, Serial2/0
R    192.168.20.0/24 [120/1] via 192.168.10.2, 00:00:23, Serial2/0
```

Router B:

```
Router#show ip route
Codes: C - connected, S - static, I - IGRP, R - RIP, M - mobile, B - BGP
       D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area
       N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2
       E1 - OSPF external type 1, E2 - OSPF external type 2, E - EGP
       i - IS-IS, L1 - IS-IS level-1, L2 - IS-IS level-2, ia - IS-IS inter area
       * - candidate default, U - per-user static route, o - ODR
       P - periodic downloaded static route

Gateway of last resort is not set

R    10.0.0.0/8 [120/1] via 192.168.20.2, 00:00:02, Serial3/0
R    172.16.0.0/16 [120/1] via 192.168.10.1, 00:00:26, Serial2/0
C    192.168.10.0/24 is directly connected, Serial2/0
C    192.168.20.0/24 is directly connected, Serial3/0
```

Router C:

```
Router#sh ip route
Codes: C - connected, S - static, I - IGRP, R - RIP, M - mobile, B - BGP
       D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area
       N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2
       E1 - OSPF external type 1, E2 - OSPF external type 2, E - EGP
       i - IS-IS, L1 - IS-IS level-1, L2 - IS-IS level-2, ia - IS-IS inter area
       * - candidate default, U - per-user static route, o - ODR
       P - periodic downloaded static route

Gateway of last resort is not set

C    10.0.0.0/8 is directly connected, FastEthernet0/0
R    172.16.0.0/16 [120/2] via 192.168.20.1, 00:00:26, Serial2/0
R    192.168.10.0/24 [120/1] via 192.168.20.1, 00:00:26, Serial2/0
C    192.168.20.0/24 is directly connected, Serial2/0
```