ADVANCED COMPUTER NETWORK

PRACTICAL NO 3

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Aim: Create a network with three routers with BGP and each router associated network will have minimum three PC. Show Connectivity

Show PC. Connectivity:

Machine Name	IP Address
PC-PT-PC0	10.10.10.2
PC-PT-PC1	10.10.10.3
PC-PT-PC2	10.10.10.4
PC-PT-PC3	20.20.20.2
PC-PT-PC4	20.20.20.3
PC-PT-PC5	20.20.20.4
PC-PT-PC6	30.30.30.2
PC-PT-PC7	30.30.30.3
PC-PT-PC8	30.30.30.4

Flow of Program:

1] Connect PC-PT-PC0, PC-PT-PC1 and PC-PT-PC2 with Switch 0 and Switch 0 with Router0 and configure it as follows:

Router>en
Router#conf t
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#interface fastethernet 0/0
Router(config-if)#ip address 10.10.10.1 255.0.0.0
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

Router(config-if)#exit
Router(config)#interface serial2/0
Router(config-if)#ip address 50.50.50.2 255.0.0.0
Router(config-if)#clock rate 64000
Router(config-if)#no shutdown

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

Router(config-if)#exit
Router(config)#interface serial3/0
Router(config-if)#ip address 70.70.70.3 255.0.0.0
Router(config-if)#clock rate 64000
Router(config-if)#no shutdown
Router(config-if)#
%LINK-5-CHANGED: Interface Serial2/0, changed state to up

BGP Configuration:

Router1(config-router)#router bgp 100
Router1(config-router)#neighbor 50.50.50.3 remote-as 200
Router1(config-router)#neighbor 70.70.70.3 remote-as 300
Router1(config-router)#network 10.10.10.1 mask 255.0.0.0
Router1(config-router)#exit

2] Connect PC-PT-PC3, PC-PT-PC4 and PC-PT-PC5 with Switch 1 and Switch 1 with Router1 and configure it as follows:

Router>en
Router#conf t
Enter configuration commands, one per line. End with CNTL/Z.

Router(config)#interface fastethernet 0/0
Router(config-if)#ip address 20.20.20.1 255.0.0.0
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

Router(config-if)#interface serial2/0
Router(config-if)#ip address 50.50.50.3 255.0.0.0
Router(config-if)#no shutdown

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

Router(config-if)#exit
Router(config)#interface serial3/0
Router(config-if)#ip address 60.60.60.2 255.0.0.0
Router(config-if)#clock rate 64000
Router(config-if)#no shutdown

Router(config)#

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

BGP Configuration:

Router2(config-router)#router bgp 200
Router2(config-router)#neighbor 50.50.50.2 remote-as 100
Router2(config-router)#neighbor 60.60.60.3 remote-as 300
Router2(config-router)#network 20.20.20.1 mask 255.0.0.0
Router2(config-router)#exit

3] Connect PC-PT-PC6, PC-PT-PC7 and PC-PT-PC8 with Switch 2 and Switch 2 with Router2 and configure it as follows:

Router>en
Router#conf t
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#interface fastethernet0/0
Router(config-if)#ip address 30.30.30.1 255.0.0.0
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

Router(config-if)#exit
Router(config)#interface serial2/0
Router(config-if)#ip address 60.60.60.3 255.0.0.0
Router(config-if)#no shutdown

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

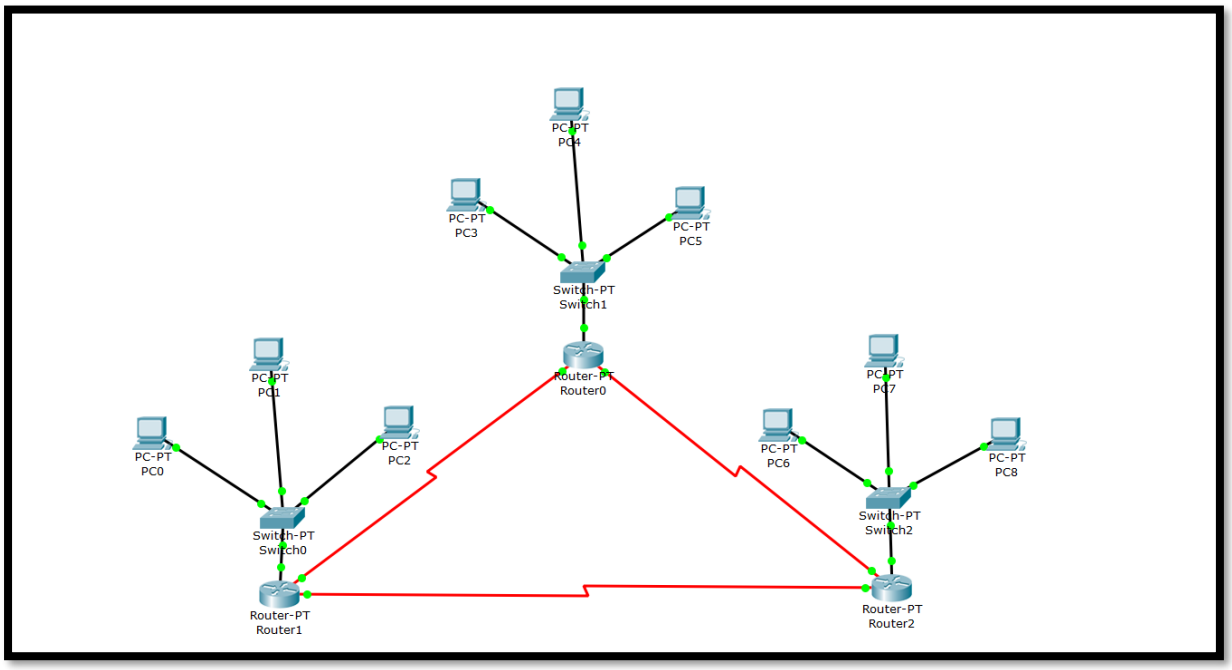
Router(config)#interface serial3/0
Router(config-if)#ip address 70.70.70.3 255.0.0.0
Router(config-if)#no shutdown

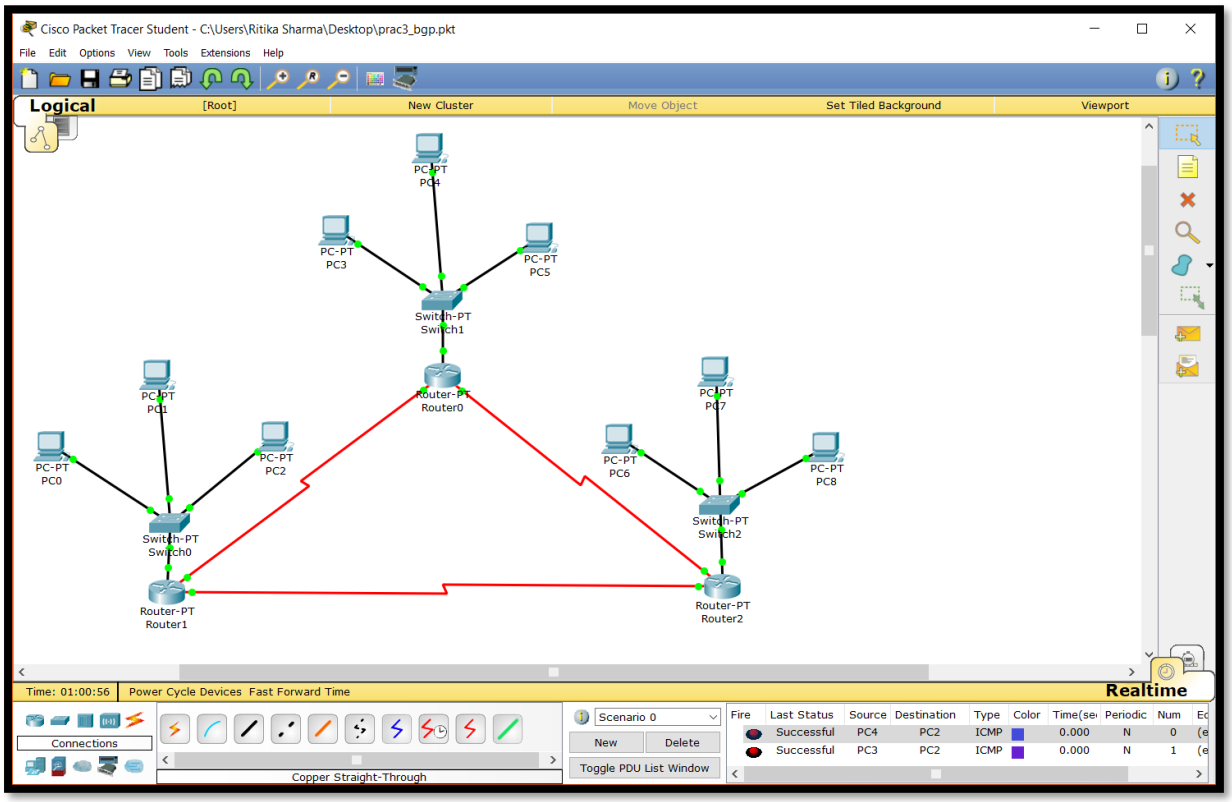
Router(config-if)#
%LINK-5-CHANGED: Interface Serial3/0, changed state to up

BGP Configuration:

Router(config)#router bgp 300
Router(config-router)#neighbor 70.70.70.2 remote-as 100
Router(config-router)#neighbor 60.60.60.2 remote-as 200
Router(config-router)#network 30.30.30.1 mask 255.0.0.0
Router(config-router)#exit

Output:


PC-PT
PC4
PC-PT
PC3
PC-PT
PC5
Switch-PT
Switch1
Router-PT
Router0
PC-PT
PC1
PC-PT
PC7
PC-PT
PC0
PC-PT
PC2
PC-PT
PC6
PC-PT
PC8
Switch-PT
Switch0
Switch-PT
Switch2
Router-PT
Router1
Router-PT
Router2


Cisco Packet Tracer Student - C:\Users\Ritika Sharma\Desktop\prac3_bgp.pkt
File Edit Options View Tools Extensions Help
Logical
[Root]
New Cluster
Move Object
Set Tiled Background
Viewport
PC-PT
PC4
PC-PT
PC3
PC-PT
PC5
Switch-PT
Switch1
Router-PT
Router0
PC-PT
PC1
PC-PT
PC7
PC-PT
PC0
PC-PT
PC2
PC-PT
PC6
PC-PT
PC8
Switch-PT
Switch0
Switch-PT
Switch2
Router-PT
Router1
Router-PT
Router2
Time: 01:00:56
Power Cycle Devices Fast Forward Time
Realtime
Connections
Copper Straight-Through
Scenario 0
New
Delete
Toggle PDU List Window
Fire
Last Status
Source
Destination
Type
Color
Time(se
Periodic
Num
Successful
PC4
PC2
ICMP
0.000
N
0
Successful
PC3
PC2
ICMP
0.000
N
1