Advanced Computer Network

PRACTICAL NO 3

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**Practical No 3**

**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:**



