18CSS202J Computer Communications
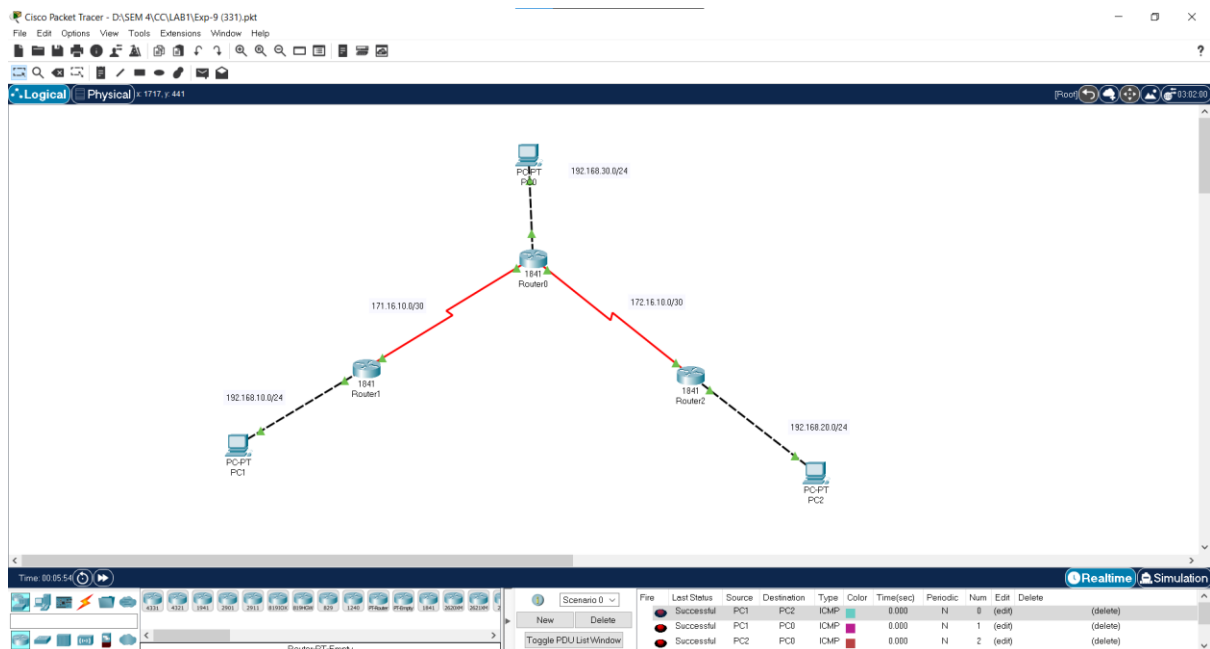
Ex 9 : Single Area OSPF

Name :- Puneet Sharma

Reg. No. :- RA1911003010331

Class :-CSE F1

Output:-

Router 0

```
Routing Protocol is "ospf 1"
  Outgoing update filter list for all interfaces is not set
  Incoming update filter list for all interfaces is not set
  Router ID 192.168.30.1
  Number of areas in this router is 1. 1 normal 0 stub 0 nssa
  Maximum path: 4
  Routing for Networks:
    171.16.10.0 0.0.0.3 area 0
    172.16.10.0 0.0.0.3 area 0
    192.168.30.0 0.0.0.255 area 0
  Routing Information Sources:
    Gateway            Distance      Last Update
    192.168.10.1            110      00:01:37
    192.168.20.1            110      00:01:36
    192.168.30.1            110      00:01:36
  Distance: (default is 110)

Router#show ip ospf database
          OSPF Router with ID (192.168.30.1) (Process ID 1)

              Router Link States (Area 0)

Link ID          ADV Router        Age           Seq#        Checksum Link count
192.168.10.1     192.168.10.1      490           0x80000004 0x00e75c 3
192.168.20.1     192.168.20.1      489           0x80000004 0x00c360 3
192.168.30.1     192.168.30.1      489           0x80000006 0x000669 5
Router#show ip route ospf
O    192.168.10.0 [110/65] via 171.16.10.1, 00:08:24, Serial0/0/0
O    192.168.20.0 [110/65] via 172.16.10.1, 00:08:24, Serial0/0/1
```

Router 2

```
Routing Protocol is "ospf 1"
  Outgoing update filter list for all interfaces is not set
  Incoming update filter list for all interfaces is not set
  Router ID 192.168.20.1
  Number of areas in this router is 1. 1 normal 0 stub 0 nssa
  Maximum path: 4
  Routing for Networks:
    172.16.10.0 0.0.0.3 area 0
    192.168.20.0 0.0.0.255 area 0
  Routing Information Sources:
    Gateway            Distance      Last Update
    192.168.10.1            110      00:01:58
    192.168.20.1            110      00:01:58
    192.168.30.1            110      00:01:57
  Distance: (default is 110)

Router#show ip ospf database
          OSPF Router with ID (192.168.20.1) (Process ID 1)

              Router Link States (Area 0)

Link ID          ADV Router        Age           Seq#        Checksum Link count
192.168.20.1     192.168.20.1      163           0x80000004 0x00c360 3
192.168.30.1     192.168.30.1      162           0x80000006 0x000669 5
192.168.10.1     192.168.10.1      163           0x80000004 0x00e75c 3
Router#
Router#
Router#
Router#show ip route ospf
     171.16.0.0/30 is subnetted, 1 subnets
O       171.16.10.0 [110/128] via 172.16.10.2, 00:03:19, Serial0/0/1
O    192.168.10.0 [110/129] via 172.16.10.2, 00:03:09, Serial0/0/1
O    192.168.30.0 [110/65] via 172.16.10.2, 00:03:19, Serial0/0/1

Router#
```

Trace from router 1 to pc2

```
Router#trace 192.168.20.2
Type escape sequence to abort.
Tracing the route to 192.168.20.2

  1    171.16.10.2     8 msec      6 msec      6 msec
  2    172.16.10.1     10 msec     13 msec     17 msec
  3    192.168.20.2    8 msec      7 msec      23 msec
Router#
```

Ping from pc1 to pc2

PC1   —   □   ✕

Physical   Config   Desktop   Programming   Attributes

Command Prompt   ✕

```
Packet Tracer PC Command Line 1.0
C:\>ping 192.168.20.2

Pinging 192.168.20.2 with 32 bytes of data:

Reply from 192.168.20.2: bytes=32 time=28ms TTL=125
Reply from 192.168.20.2: bytes=32 time=2ms TTL=125
Reply from 192.168.20.2: bytes=32 time=23ms TTL=125
Reply from 192.168.20.2: bytes=32 time=25ms TTL=125

Ping statistics for 192.168.20.2:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 2ms, Maximum = 28ms, Average = 19ms

C:\>
```

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