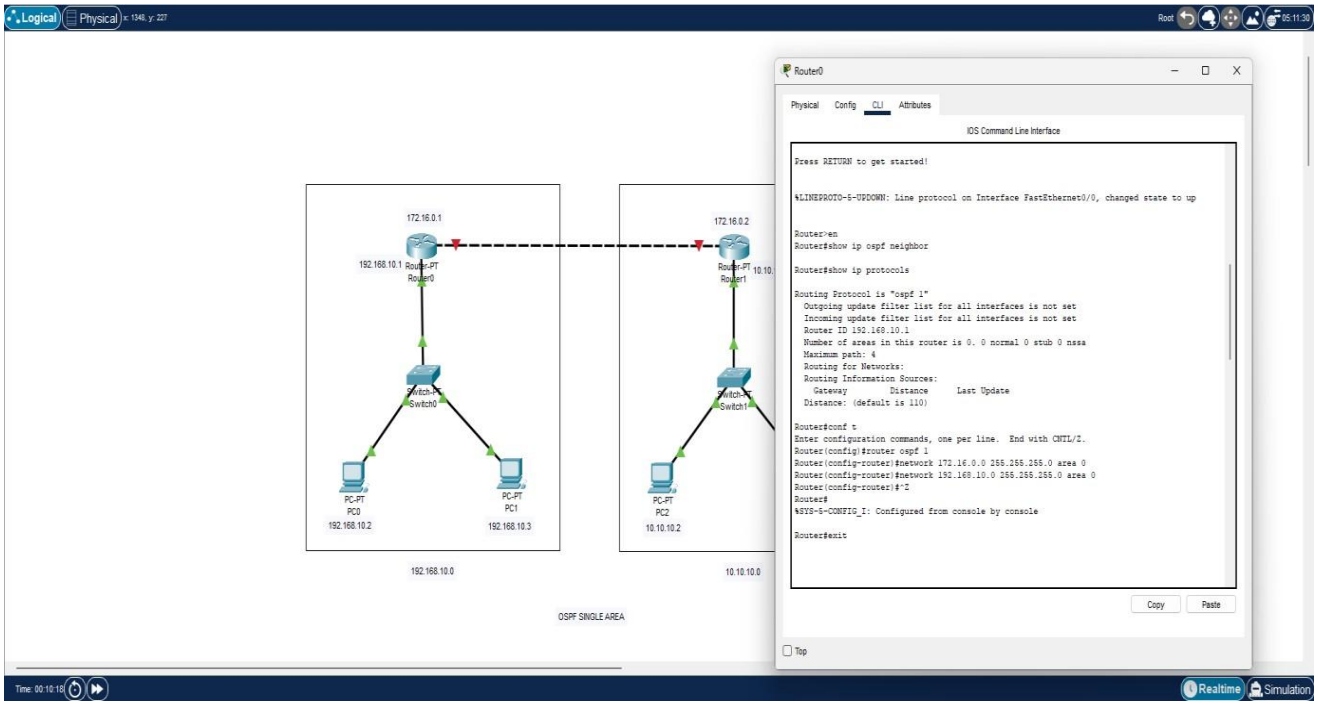
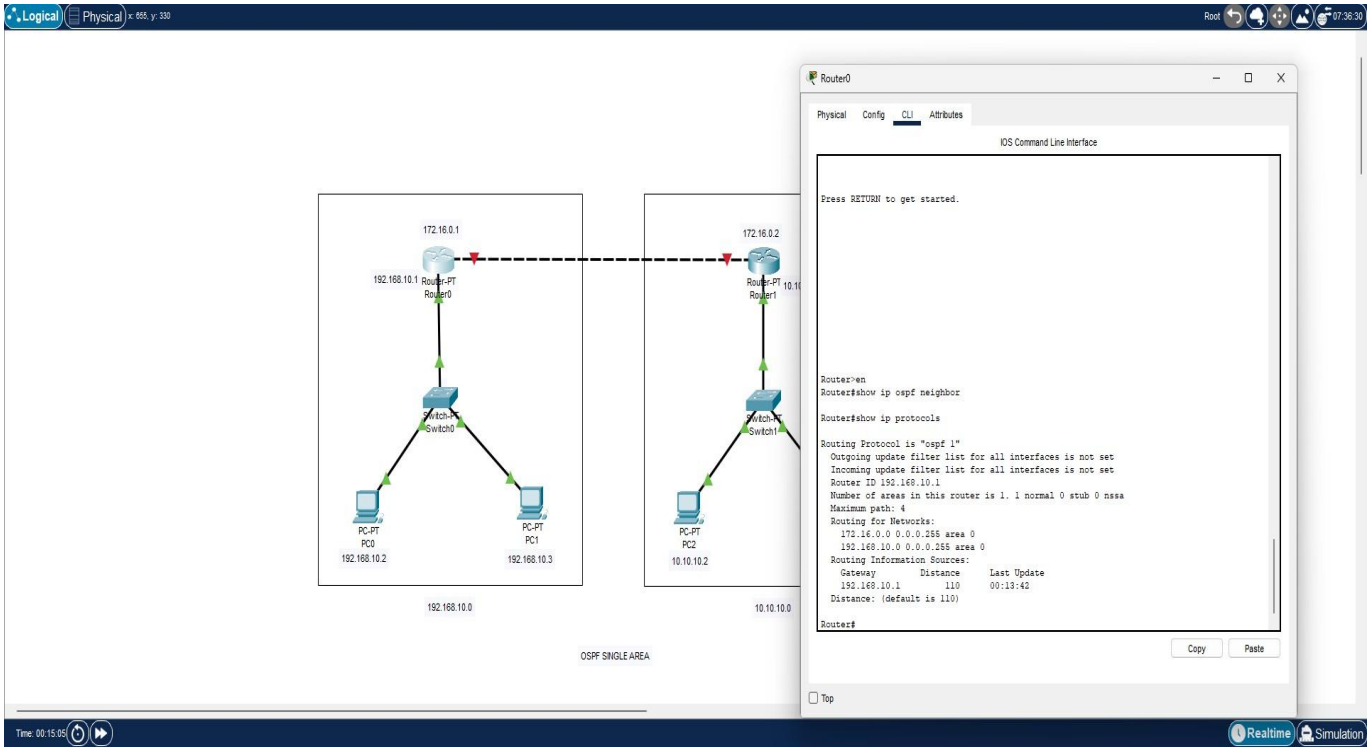
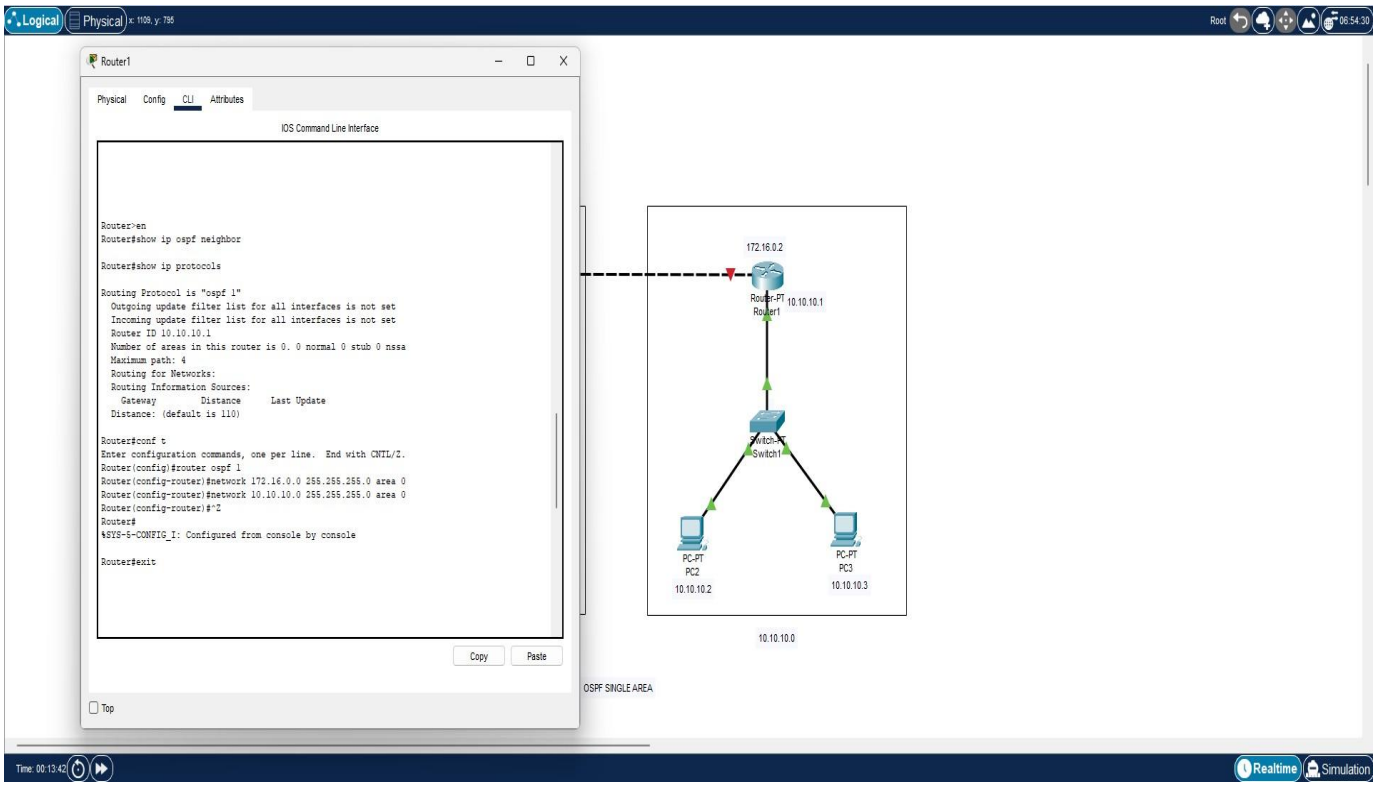
CN Lab 9: Implementation of Single Area OSPF

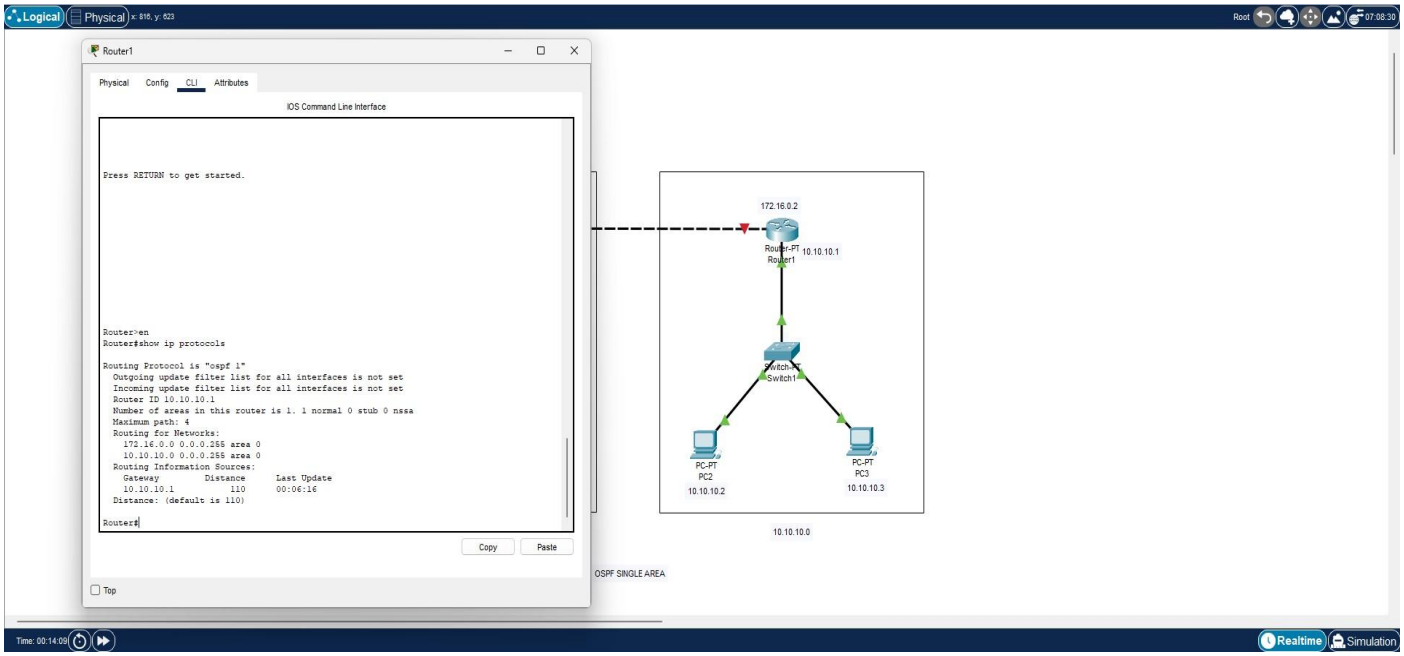
- **Procedure:**
    1. **Open Packet Tracer:**
        - Launch Cisco Packet Tracer on your computer.
    2. **Create a Network:**
        - Drag three routers onto the workspace and connect them in a triangular topology.
        - Connect a computer to each router using Ethernet cables.
    3. **Configure IP Addresses:**
        - Assign IP addresses to each interface on the routers and computers.
    4. **Enable OSPF:**
        - Access the CLI of each router.
        - Enable OSPF: `router ospf 1`.
        - Advertise connected networks: `network <network address> area 0`.
    5. **Test Connectivity:**
        - Use the `ping` command to test connectivity between the computers.

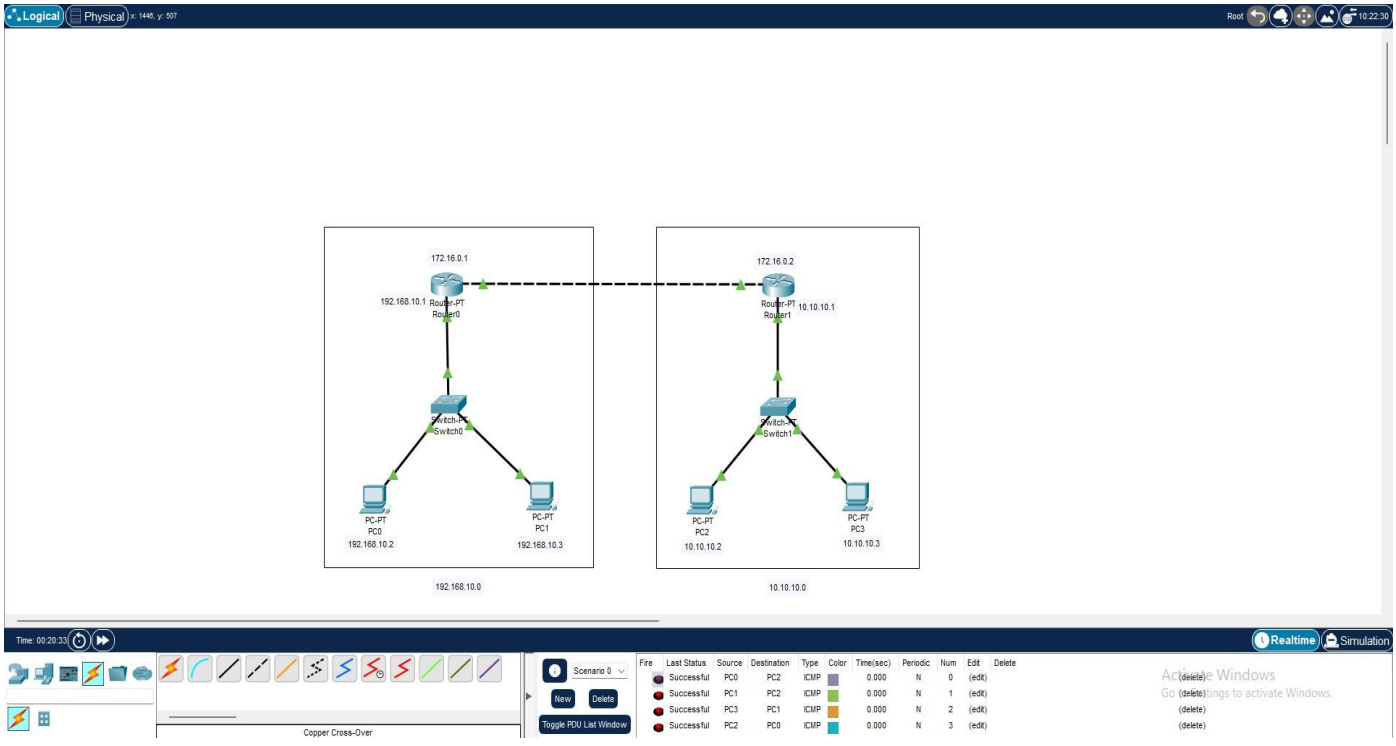
Output:




Logical
Physical
Root
Router0
Physical
Config
CLI
Attributes
IOS Command Line Interface
Press RETURN to get started.
Router>en
Router#show ip ospf neighbor
Router#show ip protocols
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 192.168.10.1
Number of areas in this router is 1. 1 normal 0 stub 0 nssa
Maximum path: 4
Routing for Networks:
172.16.0.0 0.0.0.255 area 0
192.168.10.0 0.0.0.255 area 0
Routing Information Sources:
Gateway Distance Last Update
192.168.10.1 110 00:13:42
Distance: (default is 110)
Router#
Copy
Paste
Top
172.16.0.1
192.168.10.1
Router-PT
Router0
172.16.0.2
Router-PT
Router1
Switch-PT
Switch0
Switch-PT
Switch1
PC-PT
PC0
192.168.10.2
PC-PT
PC1
192.168.10.3
PC-PT
PC2
10.10.10.2
192.168.10.0
10.10.10.0
OSPF SINGLE AREA
Time: 00:15:05
Realtime
Simulation


Logical
Physical
Root
Router1
Physical
Config
CLI
Attributes
IOS Command Line Interface
Router>en
Router#show ip ospf neighbor
Router#show ip protocols
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 10.10.10.1
Number of areas in this router is 0. 0 normal 0 stub 0 nssa
Maximum path: 4
Routing for Networks:
Routing Information Sources:
Gateway Distance Last Update
Distance: (default is 110)
Router#conf t
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#router ospf 1
Router(config-router)#network 172.16.0.0 255.255.255.0 area 0
Router(config-router)#network 10.10.10.0 255.255.255.0 area 0
Router(config-router)#^Z
Router#
%SYS-5-CONFIG_I: Configured from console by console
Router#exit
Copy
Paste
Top
172.16.0.2
Router-PT
Router1
10.10.10.1
Switch-PT
Switch1
PC-PT
PC2
10.10.10.2
PC-PT
PC3
10.10.10.3
10.10.10.0
OSPF SINGLE AREA
Time: 00:13:42
Realtime
Simulation


Logical
Physical
Root
Router1
Physical
Config
CLI
Attributes
IOS Command Line Interface
Press RETURN to get started.
Router>en
Router#show ip protocols
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 10.10.10.1
Number of areas in this router is 1. 1 normal 0 stub 0 nssa
Maximum path: 4
Routing for Networks:
172.16.0.0 0.0.0.255 area 0
10.10.10.0 0.0.0.255 area 0
Routing Information Sources:
Gateway Distance Last Update
10.10.10.1 110 00:06:16
Distance: (default is 110)
Router#
Copy
Paste
Top
172.16.0.2
Router-PT
Router1
10.10.10.1
Switch-PT
Switch1
PC-PT
PC2
10.10.10.2
PC-PT
PC3
10.10.10.3
10.10.10.0
OSPF SINGLE AREA
Time: 00:14:09
Realtime
Simulation


Logical
Physical
Root
172.16.0.1
192.168.10.1
Router-PT
Router0
Switch-PT
Switch0
PC-PT
PC0
192.168.10.2
PC-PT
PC1
192.168.10.3
192.168.10.0
172.16.0.2
Router-PT
Router1
10.10.10.1
Switch-PT
Switch1
PC-PT
PC2
10.10.10.2
PC-PT
PC3
10.10.10.3
10.10.10.0
Time: 00:20:33
Realtime
Simulation
Copper Cross-Over
Scenario 0
New
Delete
Toggle PDU List Window
Fire
Last Status
Source
Destination
Type
Color
Time(sec)
Periodic
Num
Edit
Delete
Successful PC0 PC2 ICMP 0.000 N 0 (edit) (delete)
Successful PC1 PC2 ICMP 0.000 N 1 (edit) (delete)
Successful PC3 PC1 ICMP 0.000 N 2 (edit) (delete)
Successful PC2 PC0 ICMP 0.000 N 3 (edit) (delete)