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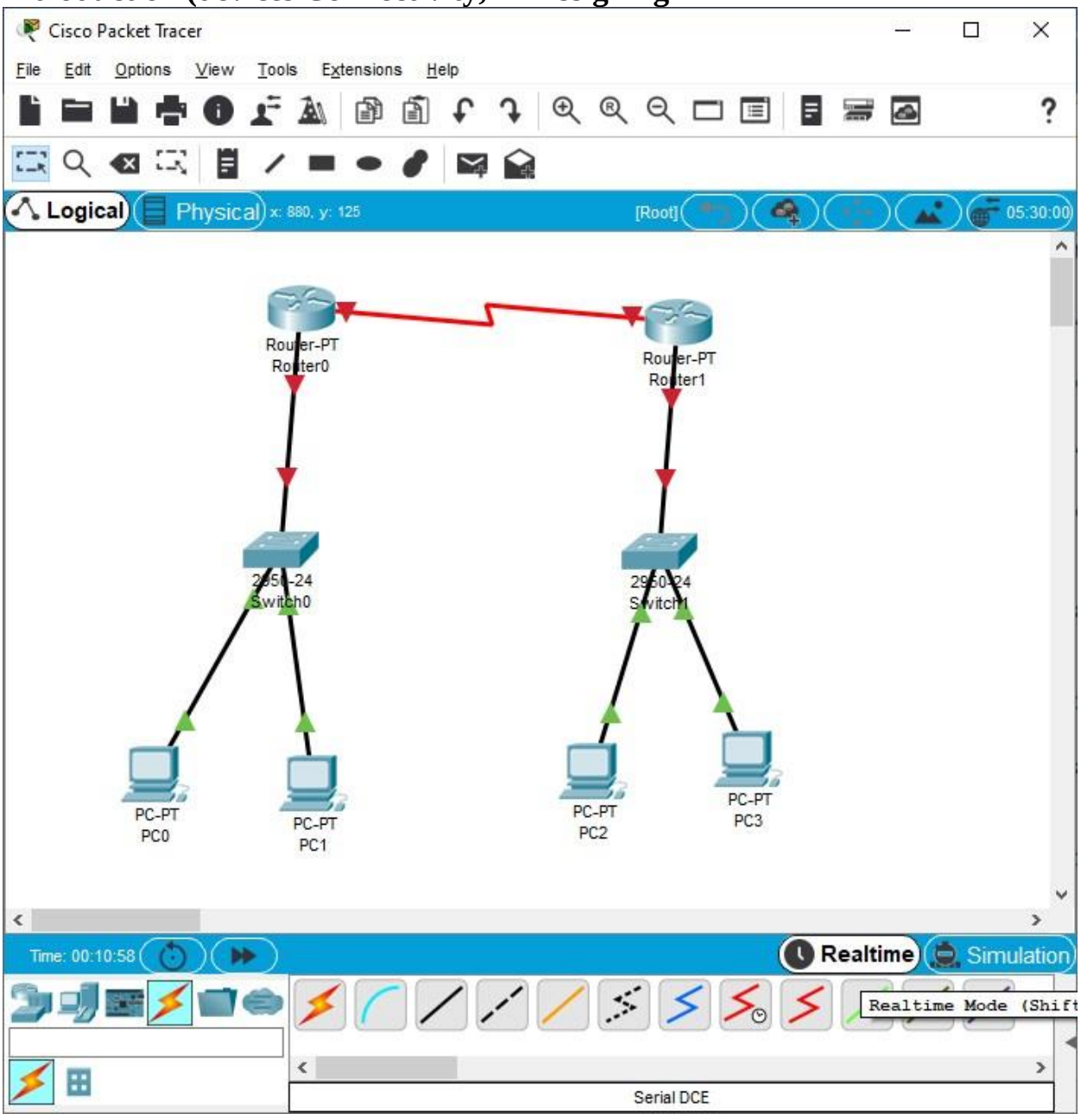
01-134192-030
BSCS-4B

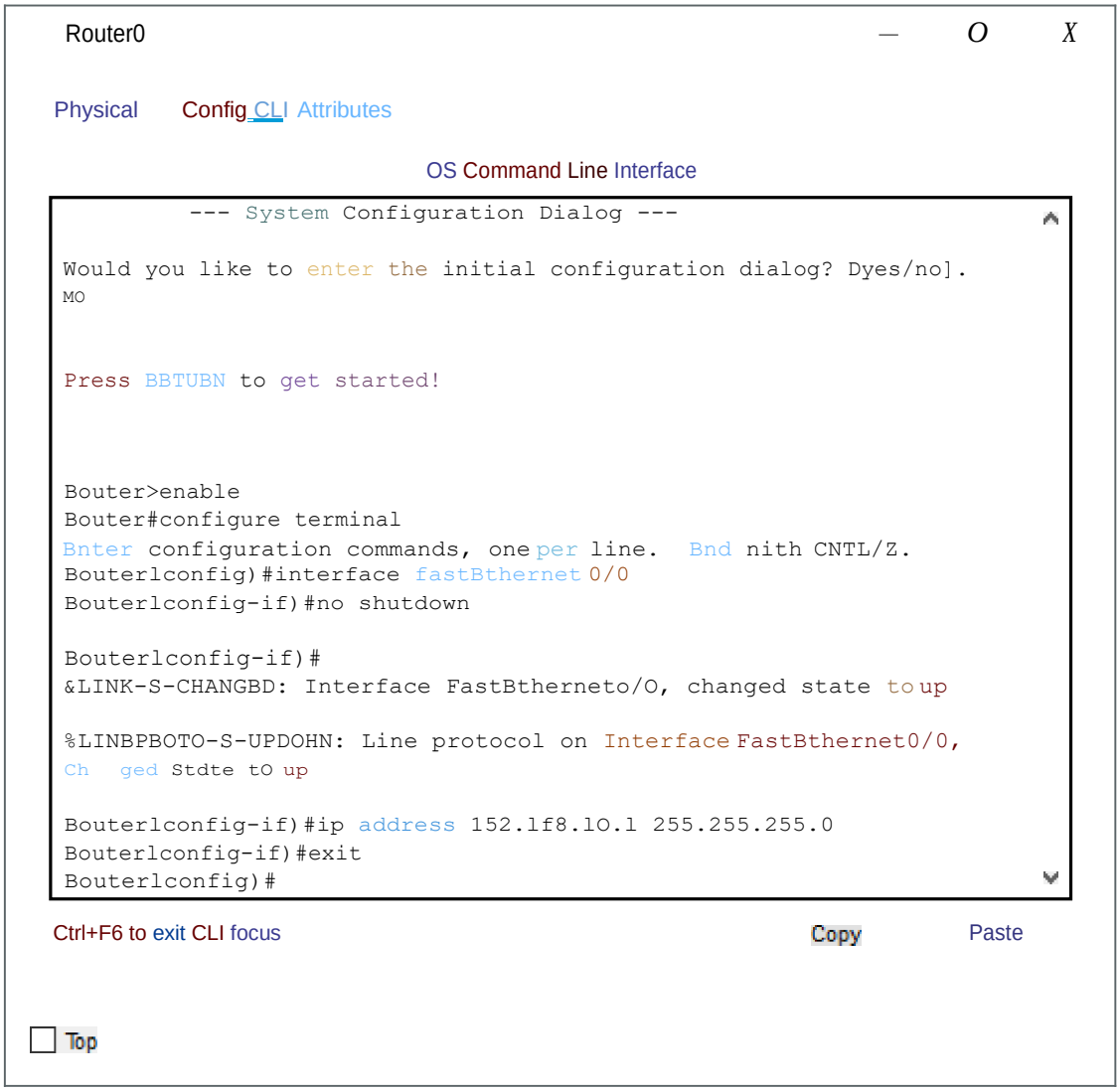
Q1: **Configure Open Shortest Path First (OSPF) protocol between three routers**

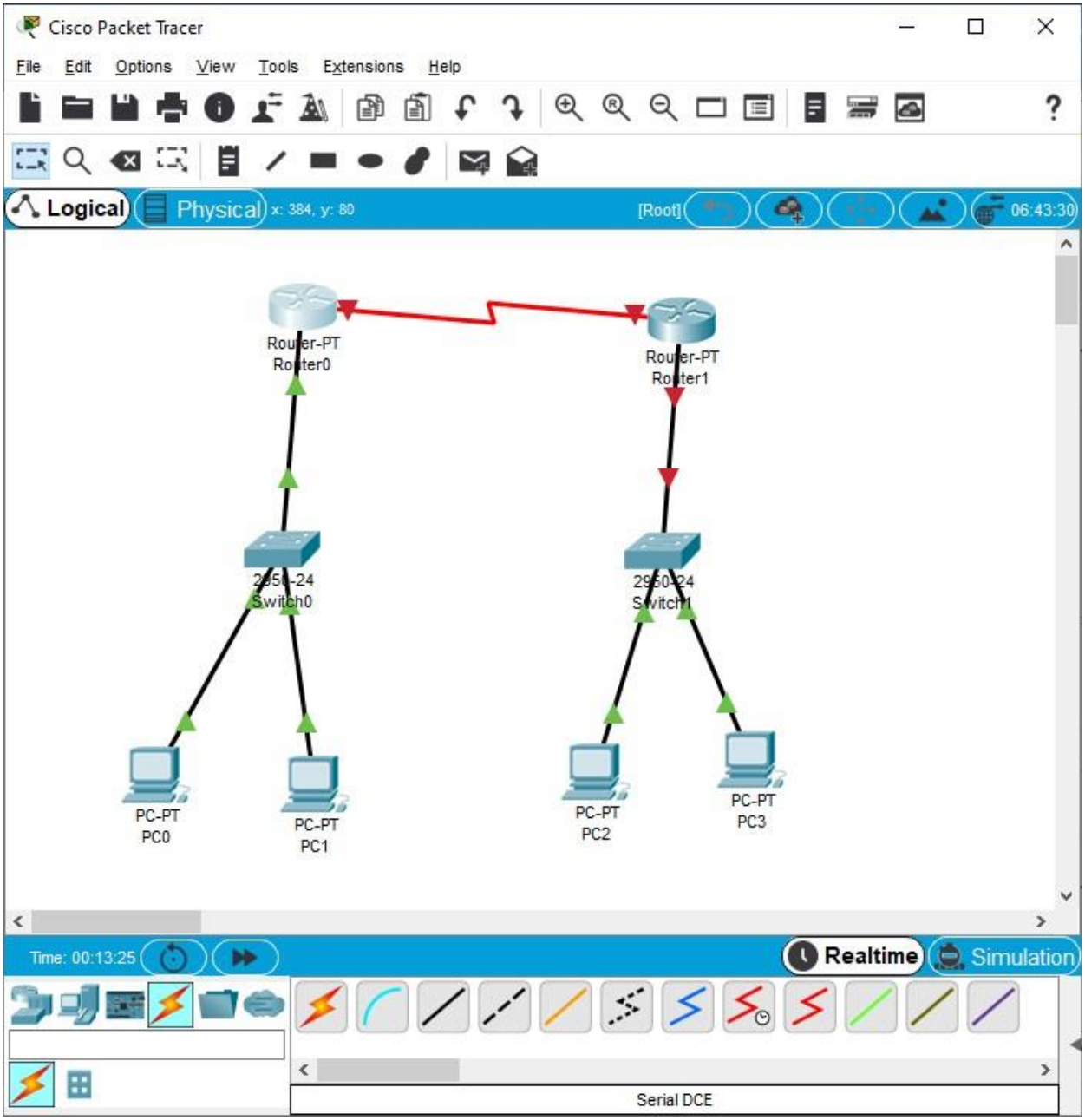
Tasks:

Introduction (devices Connectivity, IP Assigning

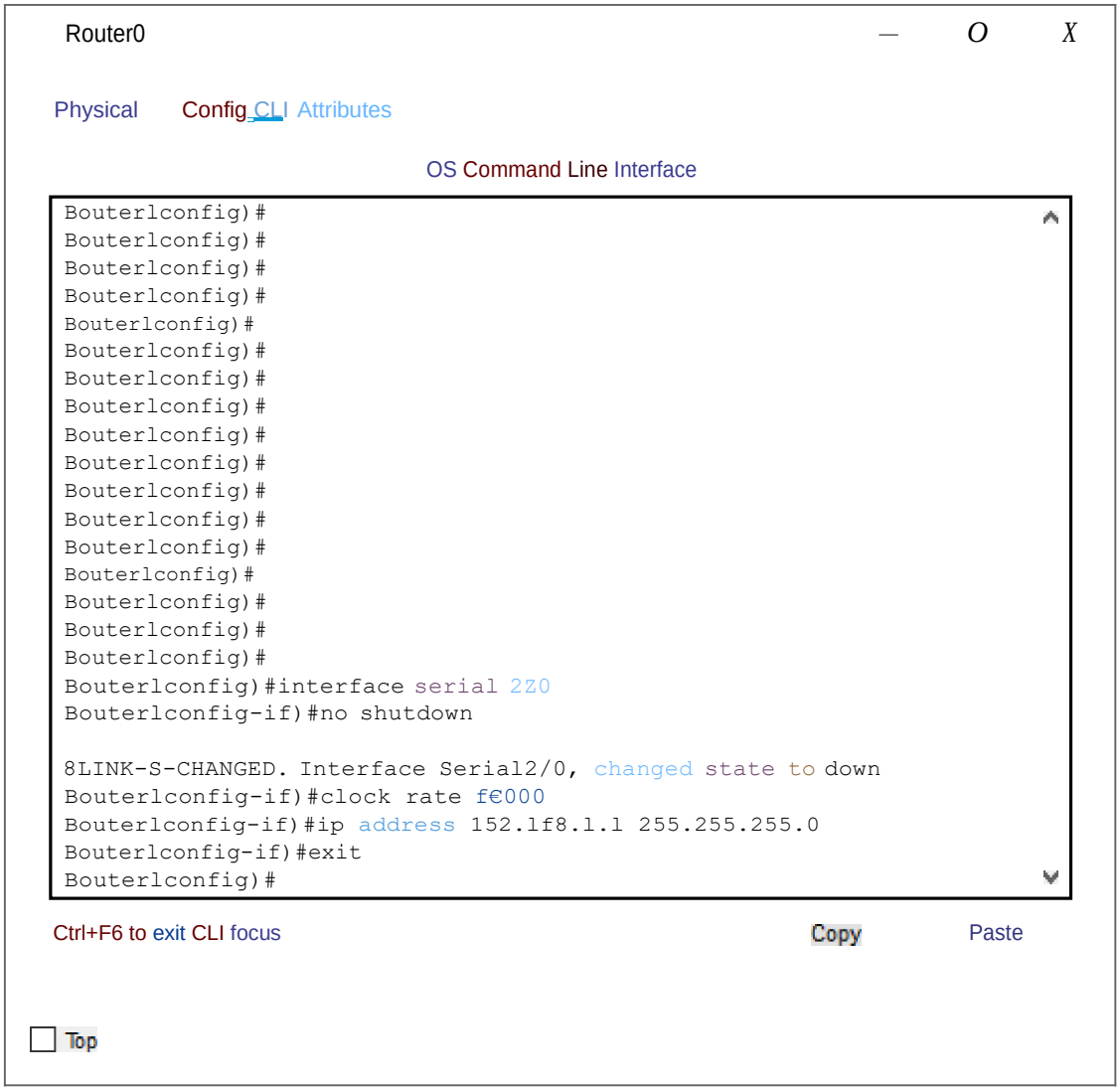


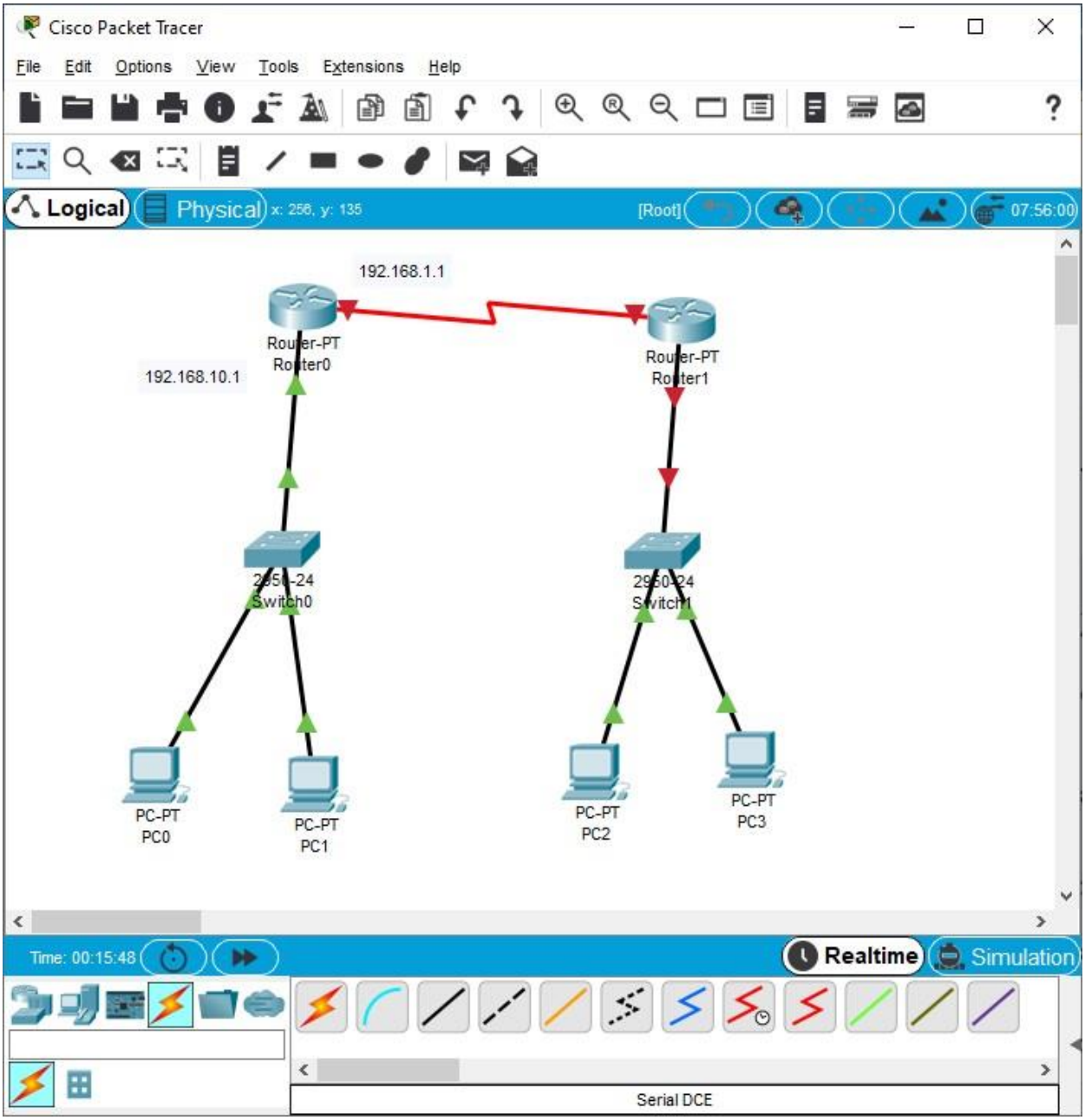
Giving no shutdown command to port 0/0 of router0 and Assigning IP address to port 0/0 of router0:





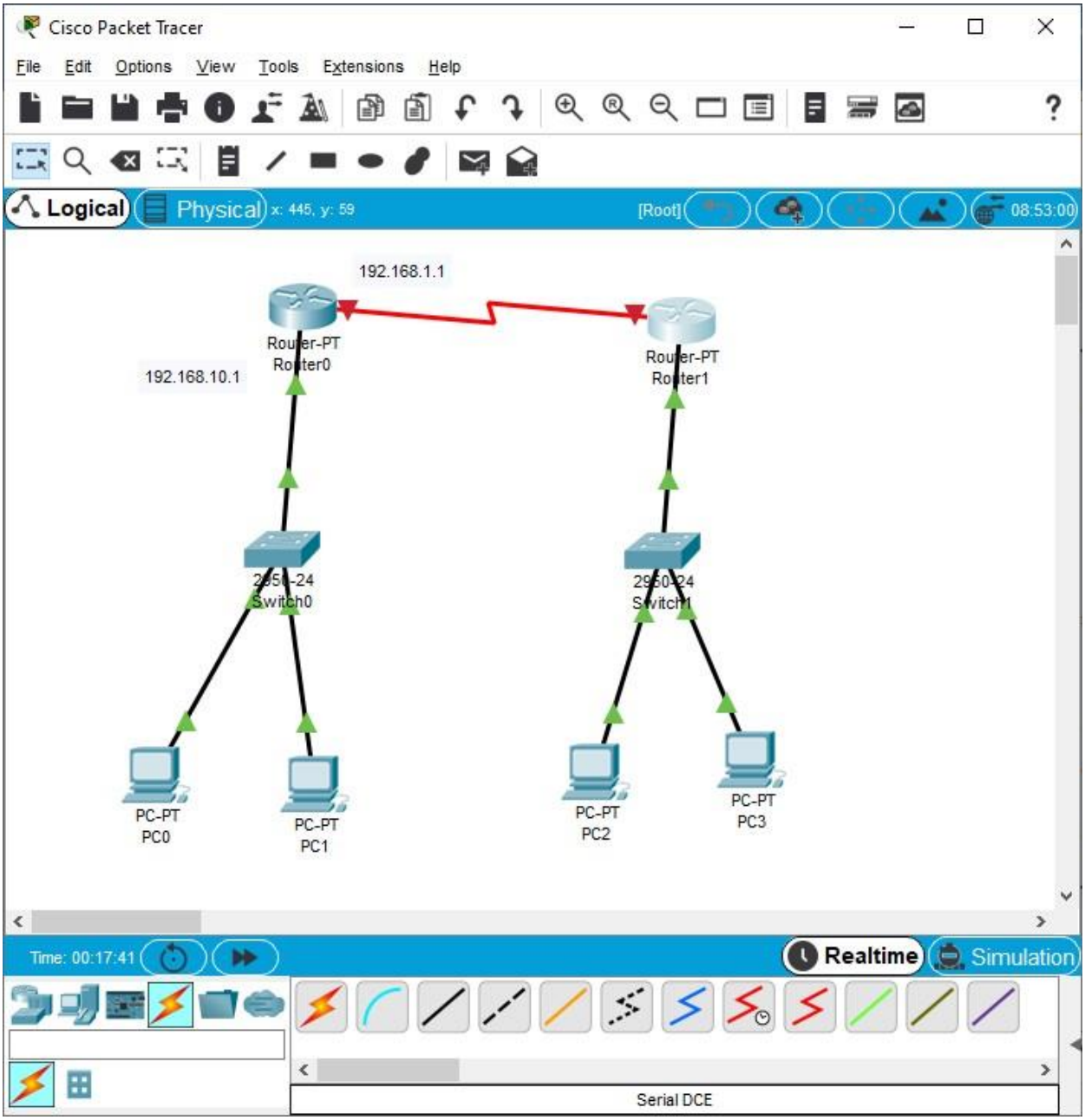
Assigning IP to serial port 2/0 of router0 and giving no shutdown command


Router0
Physical
Config CLI Attributes
OS Command Line Interface
Bouterlconfig)#
Bouterlconfig)#
Bouterlconfig)#
Bouterlconfig)#
Bouterlconfig)#
Bouterlconfig)#
Bouterlconfig)#
Bouterlconfig)#
Bouterlconfig)#
Bouterlconfig)#
Bouterlconfig)#
Bouterlconfig)#
Bouterlconfig)#
Bouterlconfig)#
Bouterlconfig)#
Bouterlconfig)#interface serial 2Z0
Bouterlconfig-if)#no shutdown
8LINK-S-CHANGED. Interface Serial2/0, changed state to down
Bouterlconfig-if)#clock rate f€000
Bouterlconfig-if)#ip address 152.1f8.1.1 255.255.255.0
Bouterlconfig-if)#exit
Bouterlconfig)#
Ctrl+F6 to exit CLI focus
Copy
Paste
Top



Giving no shutdown command to port 0/0 of router1 and Assigning IP address to port 0/0 of router1:

Router1
Physical
Config CLI Attributes
OS Command Line Interface
--- System Configuration Dialog ---
Would you like to enter the initial configuration dialog? Dyes/no].
MO
Press BBTUBN to get started!
Bouter>enable
Bouter#configure terminal
Bnter configuration commands, one per line. Bnd nith CNTL/Z.
Bouterlconfig)#interface fastBthernet 0/0
Bouterlconfig-if)#no shutdown
Bouterlconfig-if)#
&LINK-S-CHANGBD: Interface FastBtherneto/O, changed state to up
%LINBPBOTO-S-UPDOHN: Line protocol on Interface FastBthernet0/0,
Ch ged Stdte tO up
Bouterlconfig-if)#ip address 152.1f8.20.1 255.255.255.0
Bouterlconfig-if)#exit
Bouterlconfig)#
Ctrl+F6 to exit CLI focus
Copy
Paste
Top



Assigning IP to serial port 2/0 of router1 and giving no shutdown command

Router1 — O X

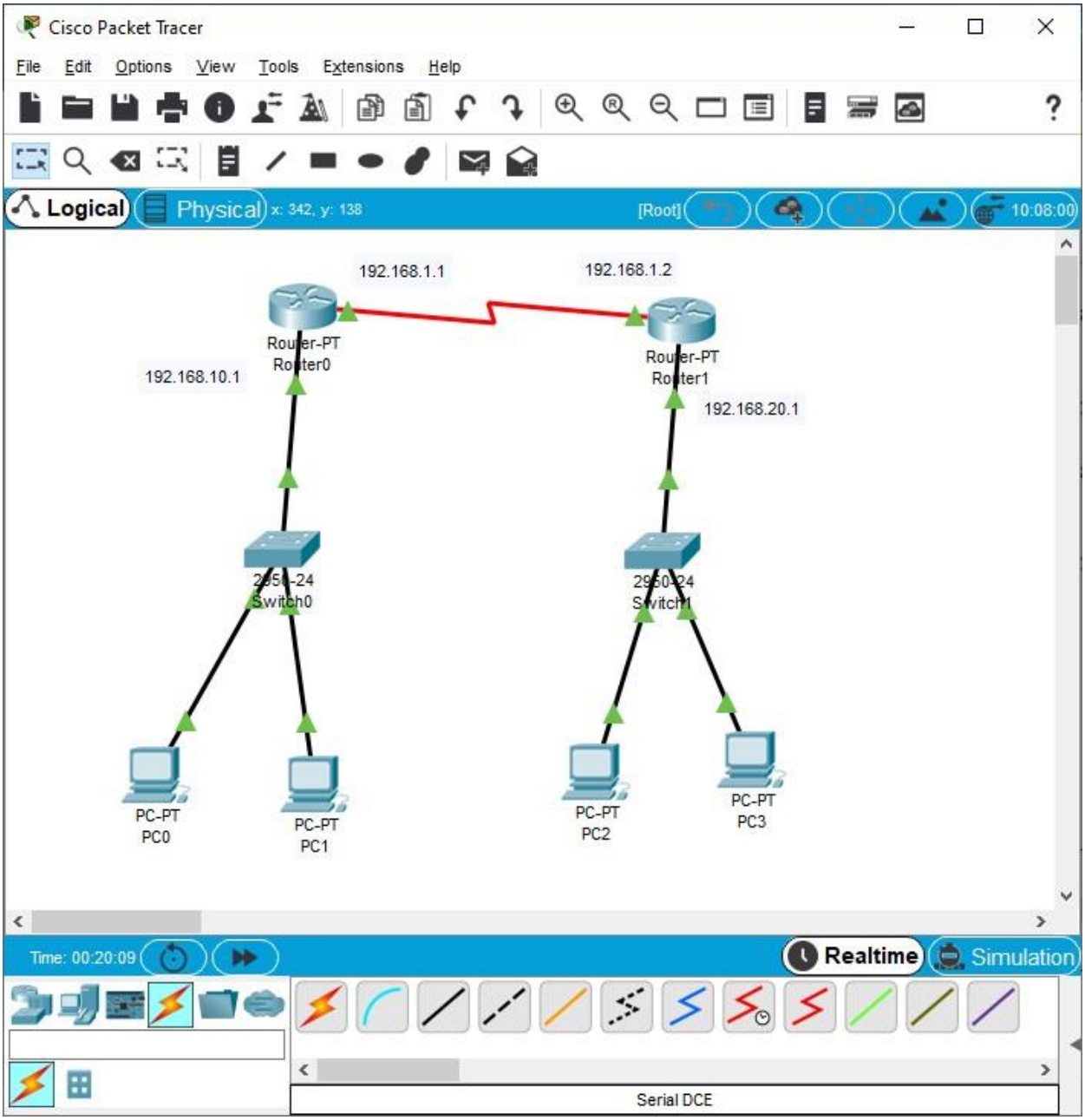
Physical Config CLI Attributes

OS Command Line Interface

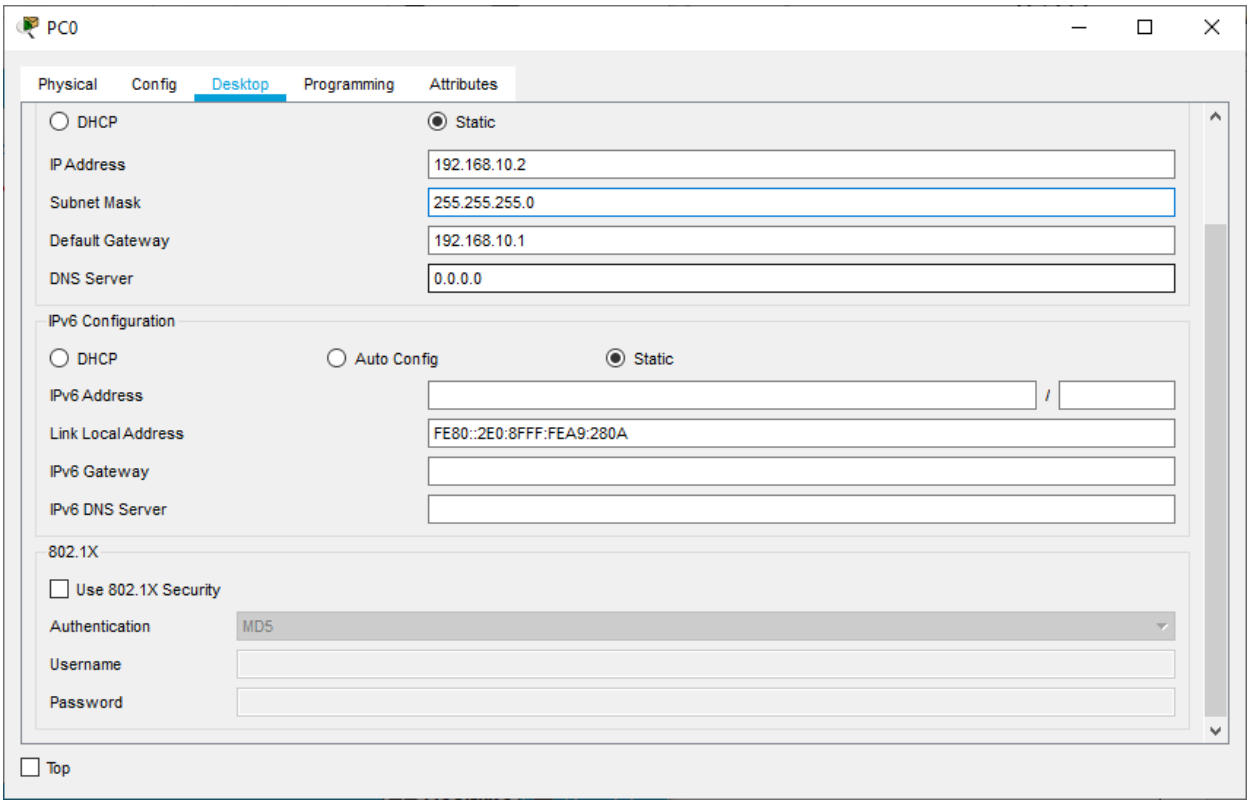
```
Bouterlconfig)#
Bouterlconfig)#
Bouterlconfig)#
Bouterlconfig)#
Bouterlconfig)#
Bouterlconfig)#
Bouterlconfig)#
Bouterlconfig)#
Bouterlconfig)#
Bouterlconfig)#interface  serial  2/0
Bouter l config-if)#no shutdown

Bouterlconfig-if)#
BLINK-S-CHANGBD. Interface Serial2/O, changed state to  up

Bouterlconfig-if)#ip address 152.
8LINBPBOTO-S-UPDOHN. Line protocol on Interface Serial2/0,  changed
StdtR tO Ll{J


8 Invalid input detected at "' marker.

Bouterlconfig-if)#ip address 152.1f8.1.2 255.255.255.0
Bouterlconfig-if)#exit
Bouterlconfig)#
```

Ctrl+F6 to exit CLI focus Copy Paste

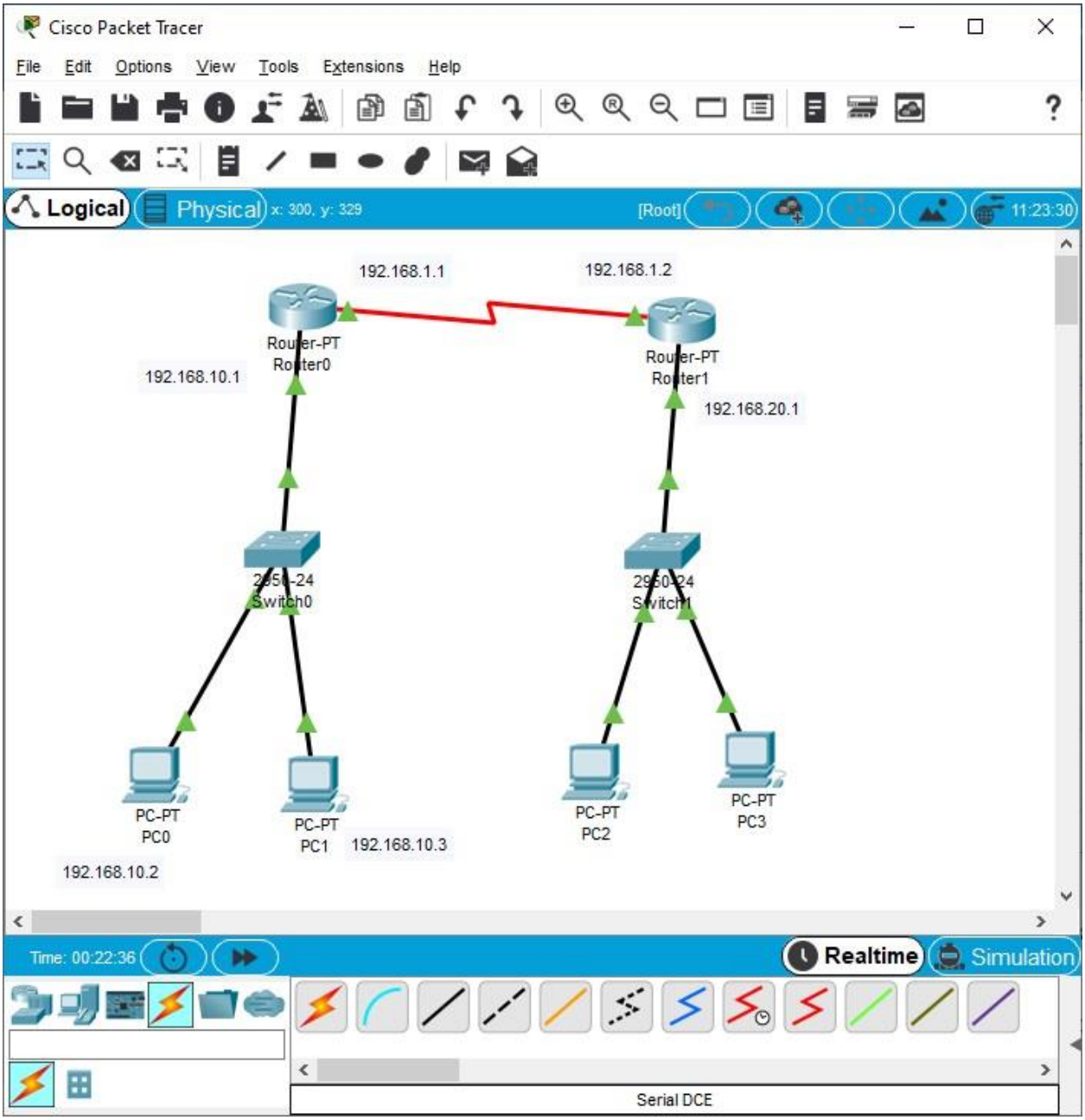
☐ Top



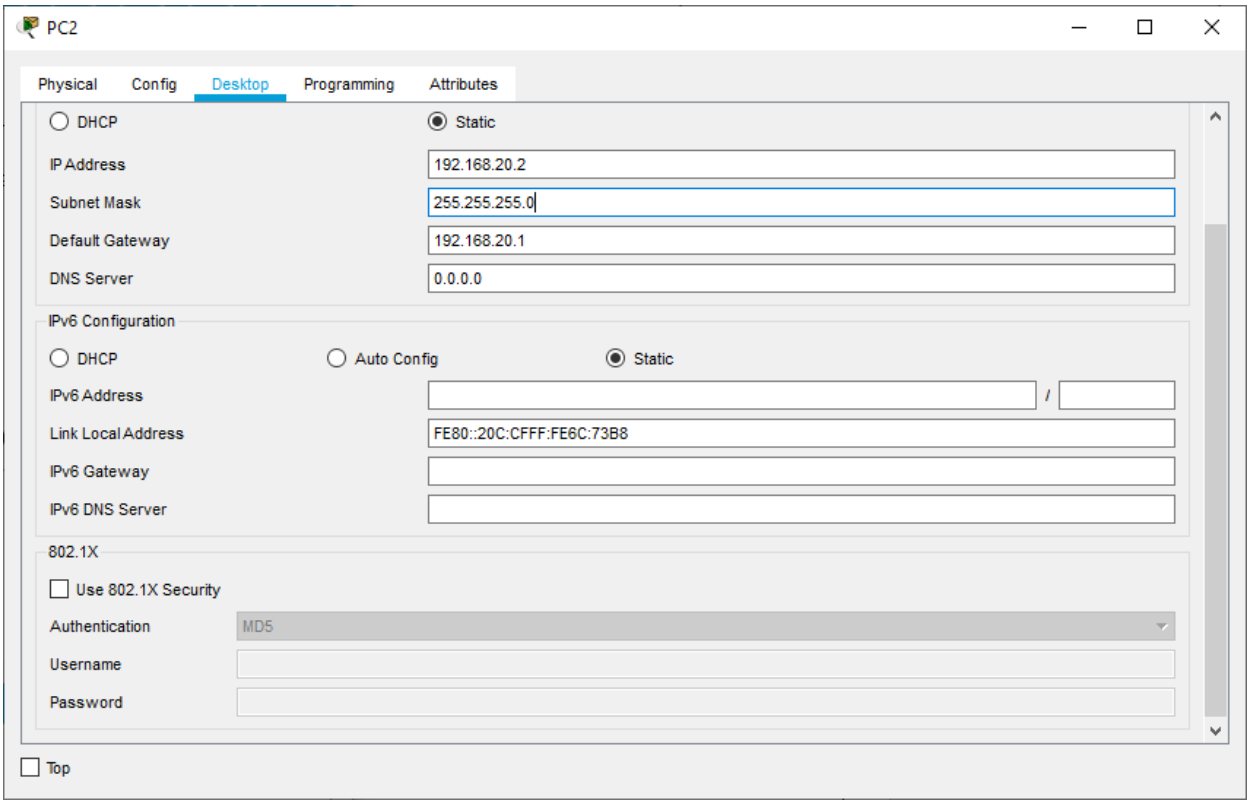
Assigning IP to PC0, which will have a default gate (192.168.10.1) and IP 192.168.10.2, which is connected to router0



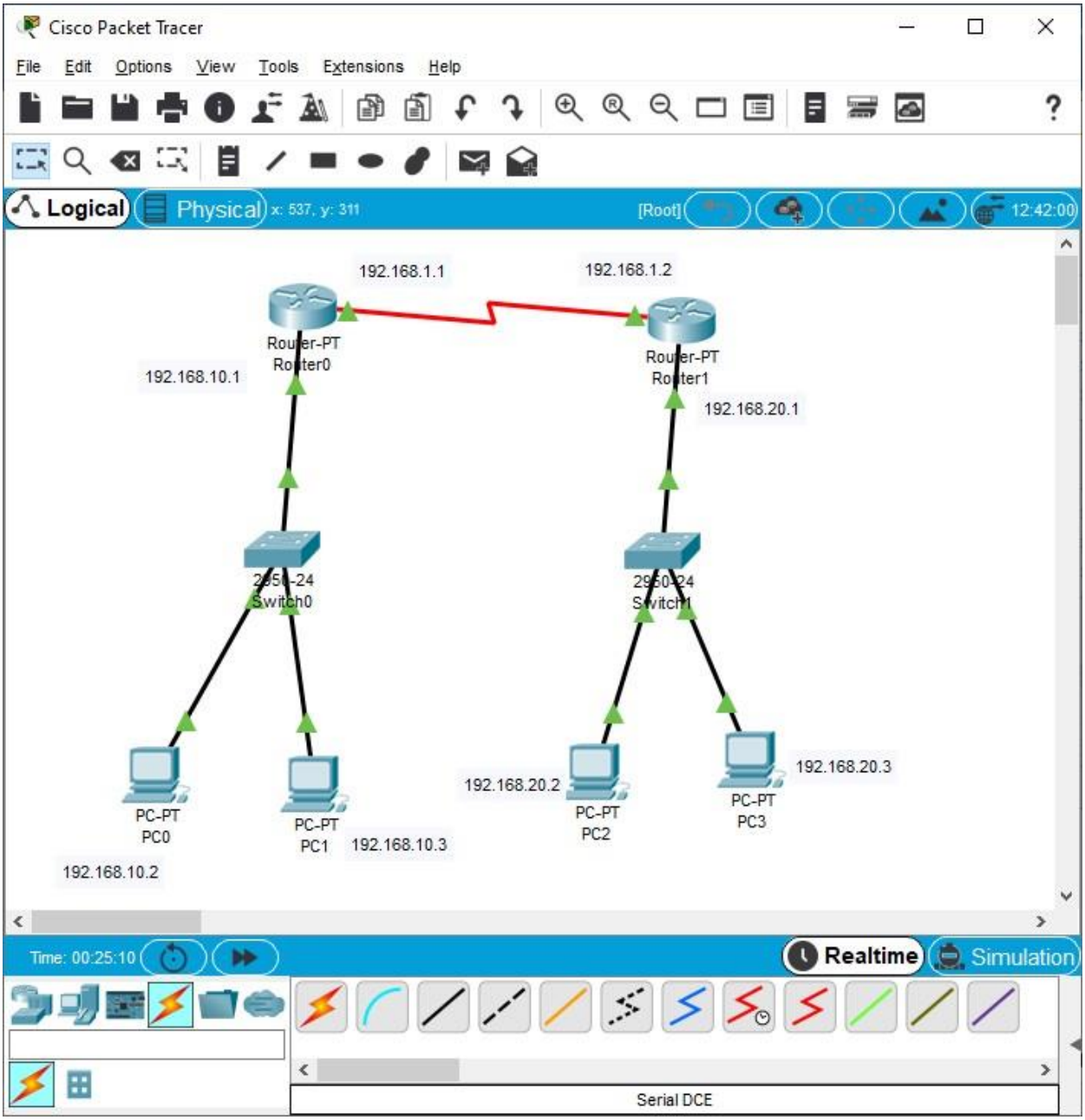
Similarly, same gateway for PC1 with IP 192.168.10.3



Assigning IP to PC2, which will have a default gate (192.168.20.1) and IP 192.168.20.2, which is connected to router1

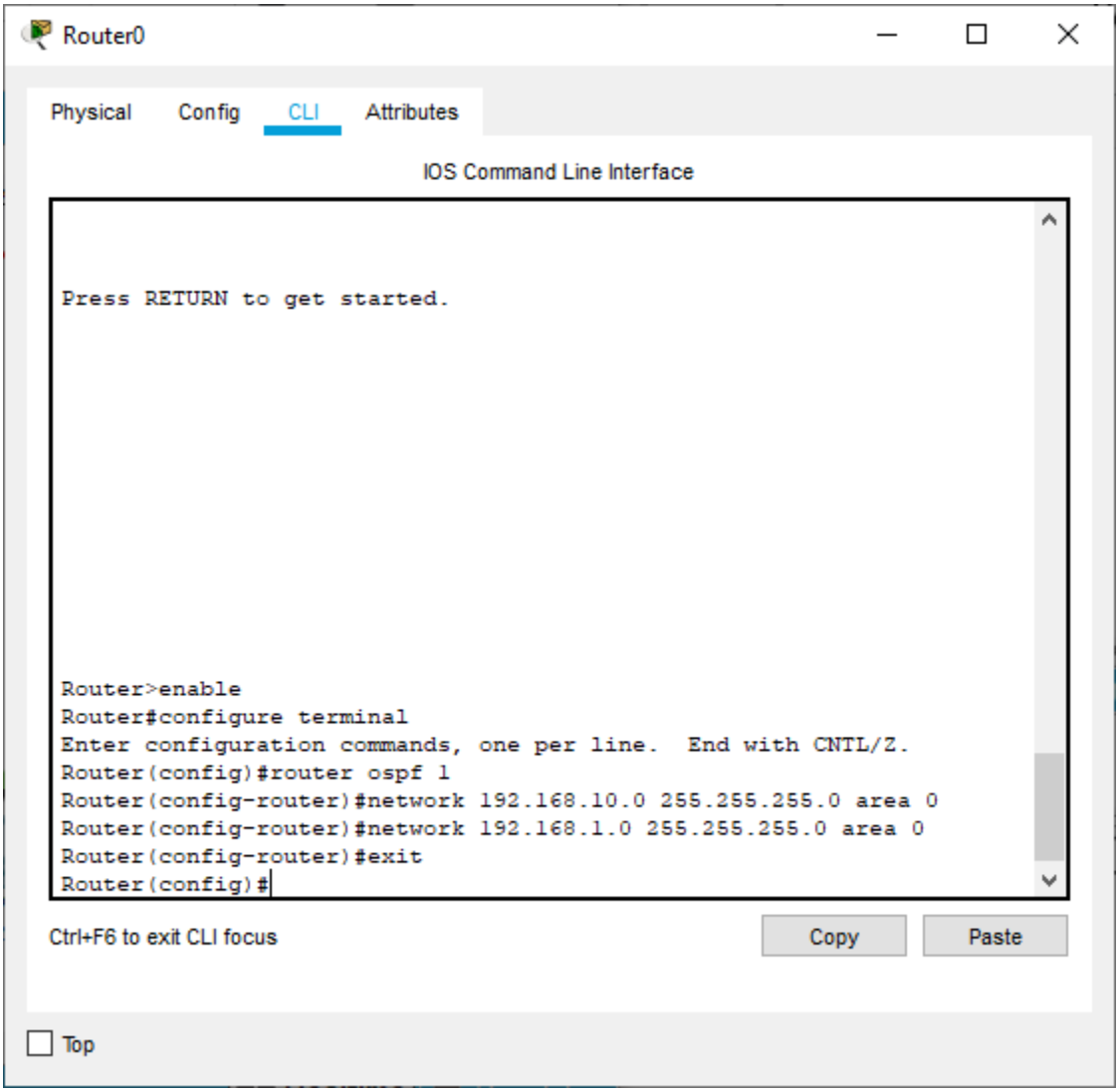


Similarly, same gateway for PC3 with IP 192.168.20.3

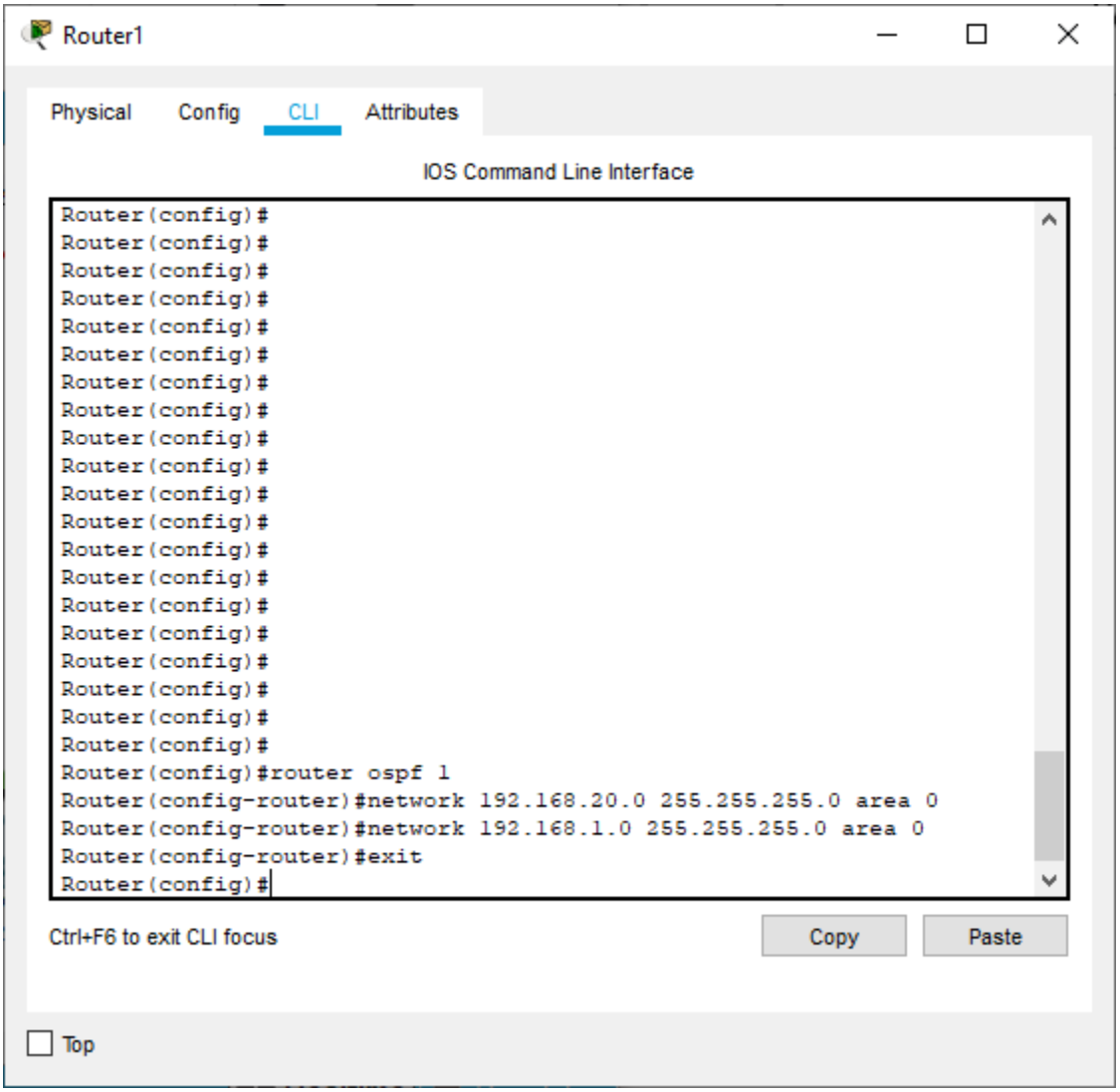


Implementation of Open Shortest Path First (OSPF) protocol

Giving router ospf command to router0

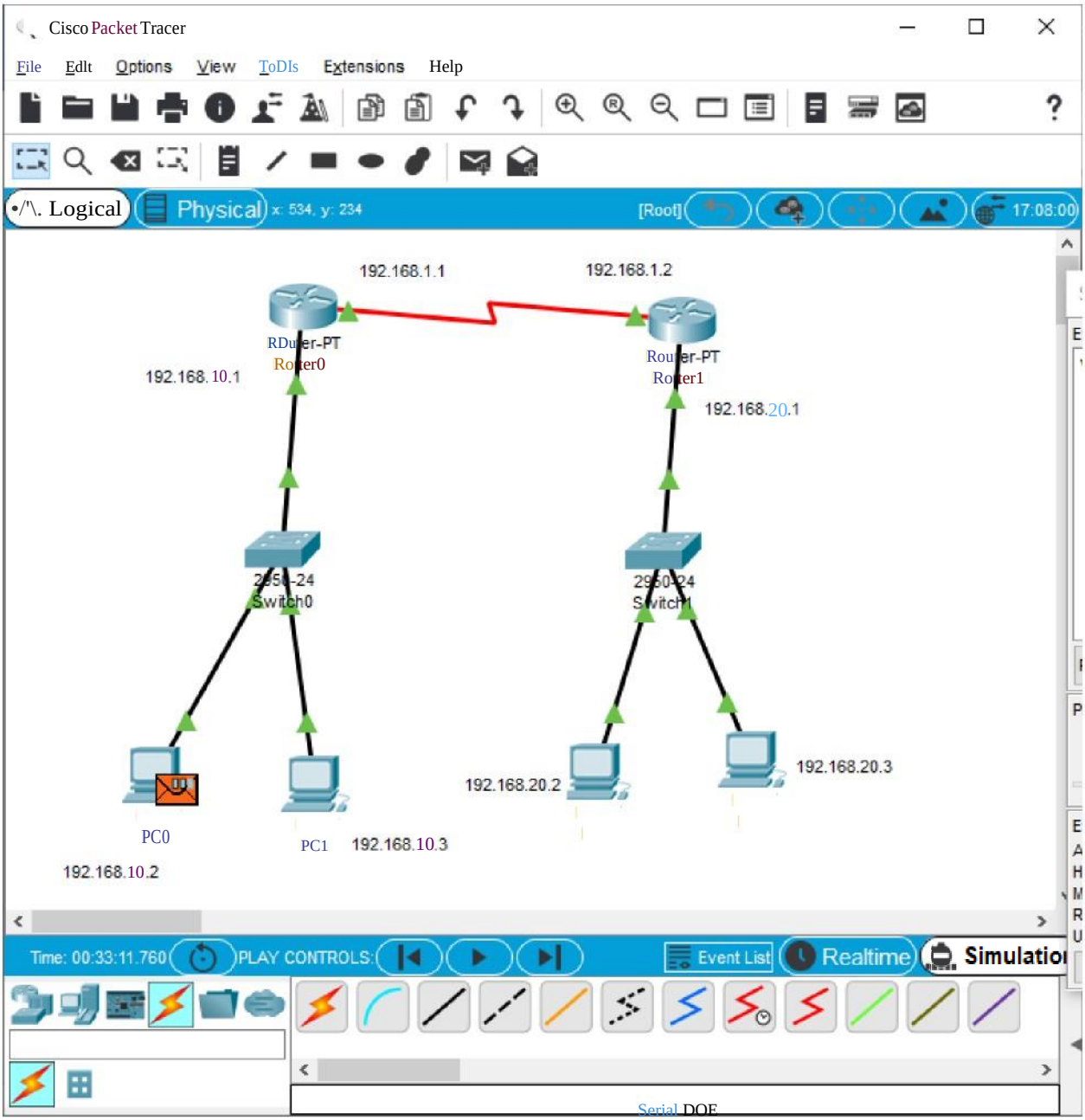


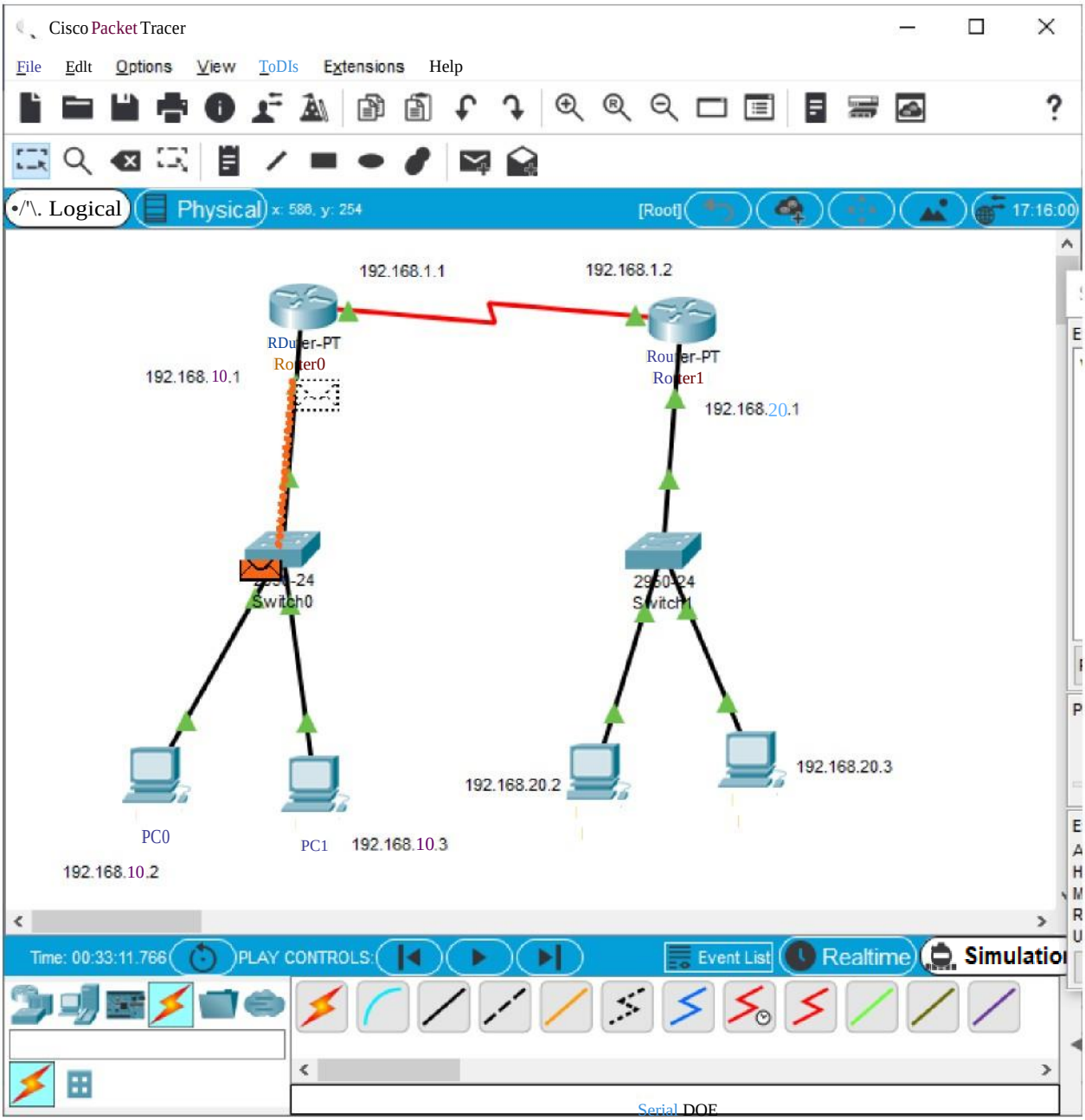
Giving router ospf command to router1

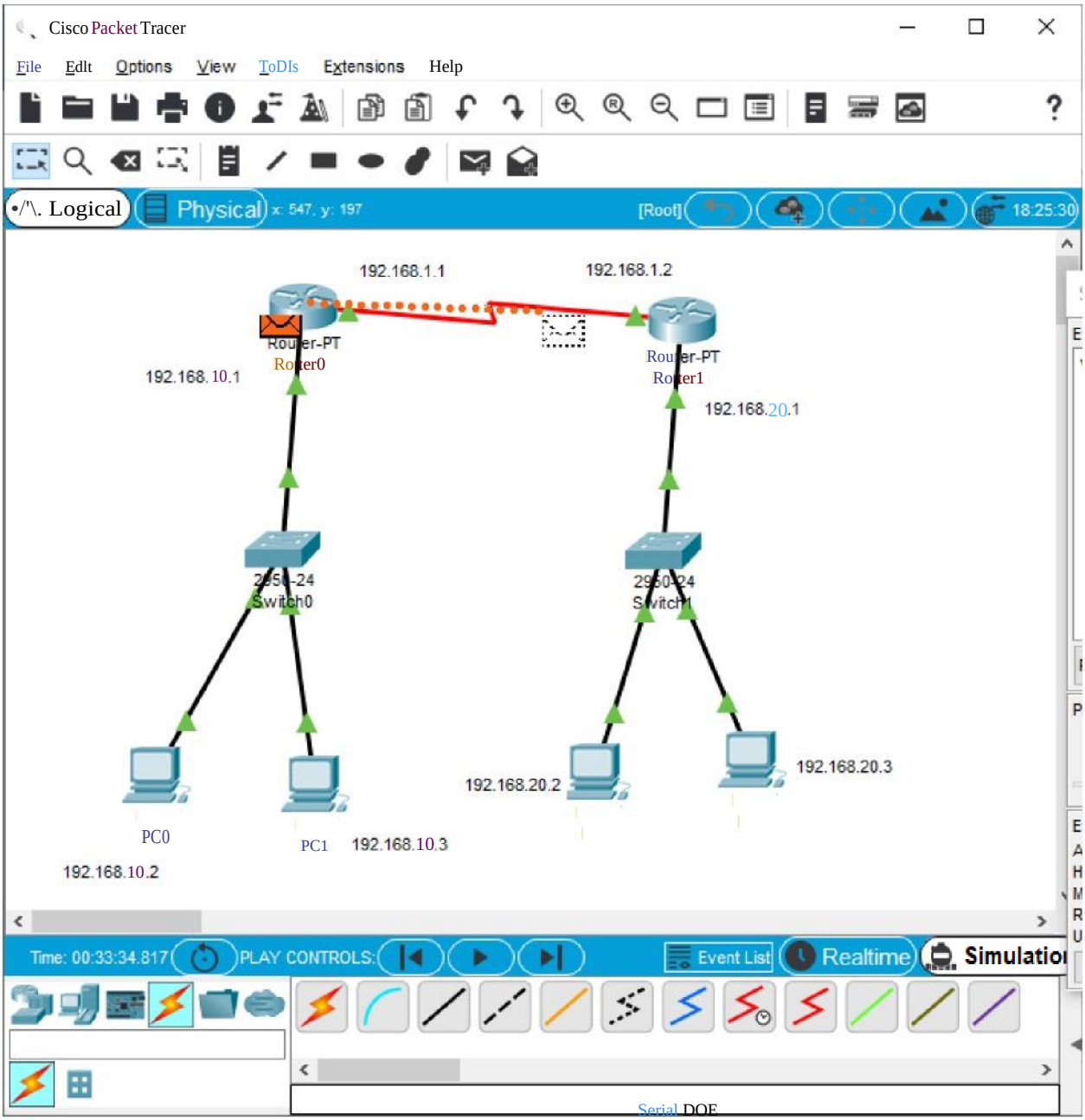


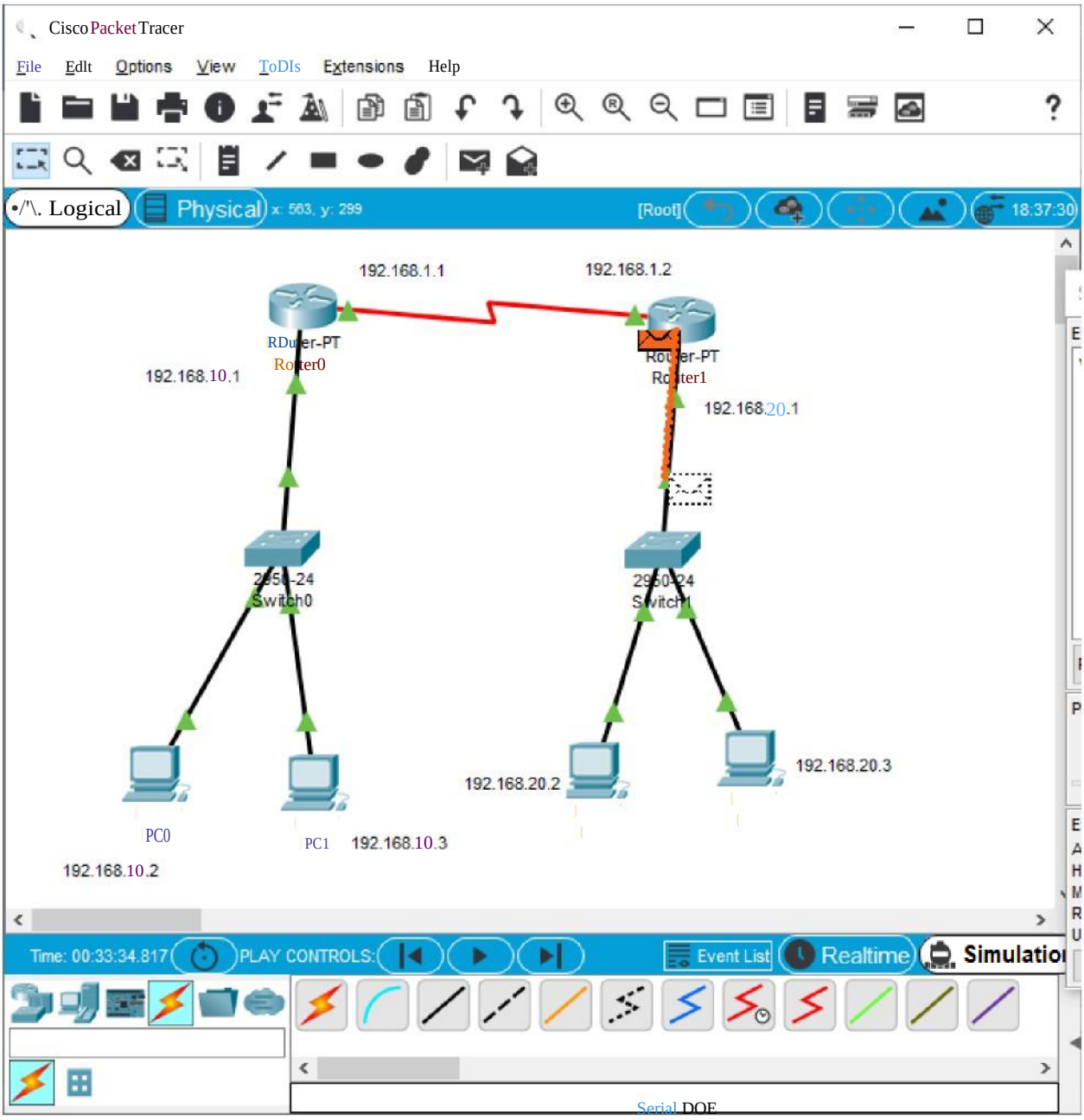
Packet Simulation

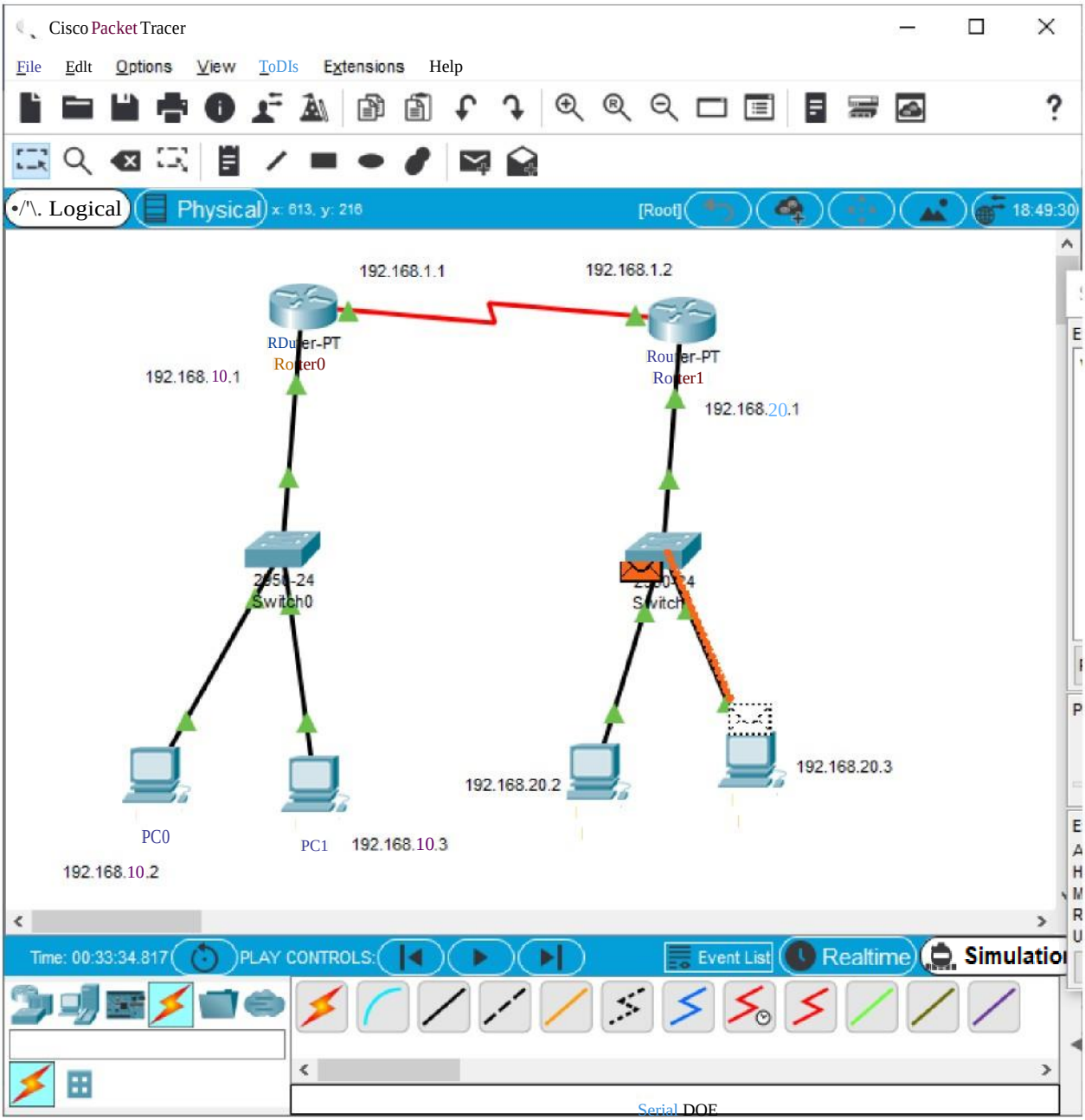
Testing the packet simulation from PC0 to PC3.

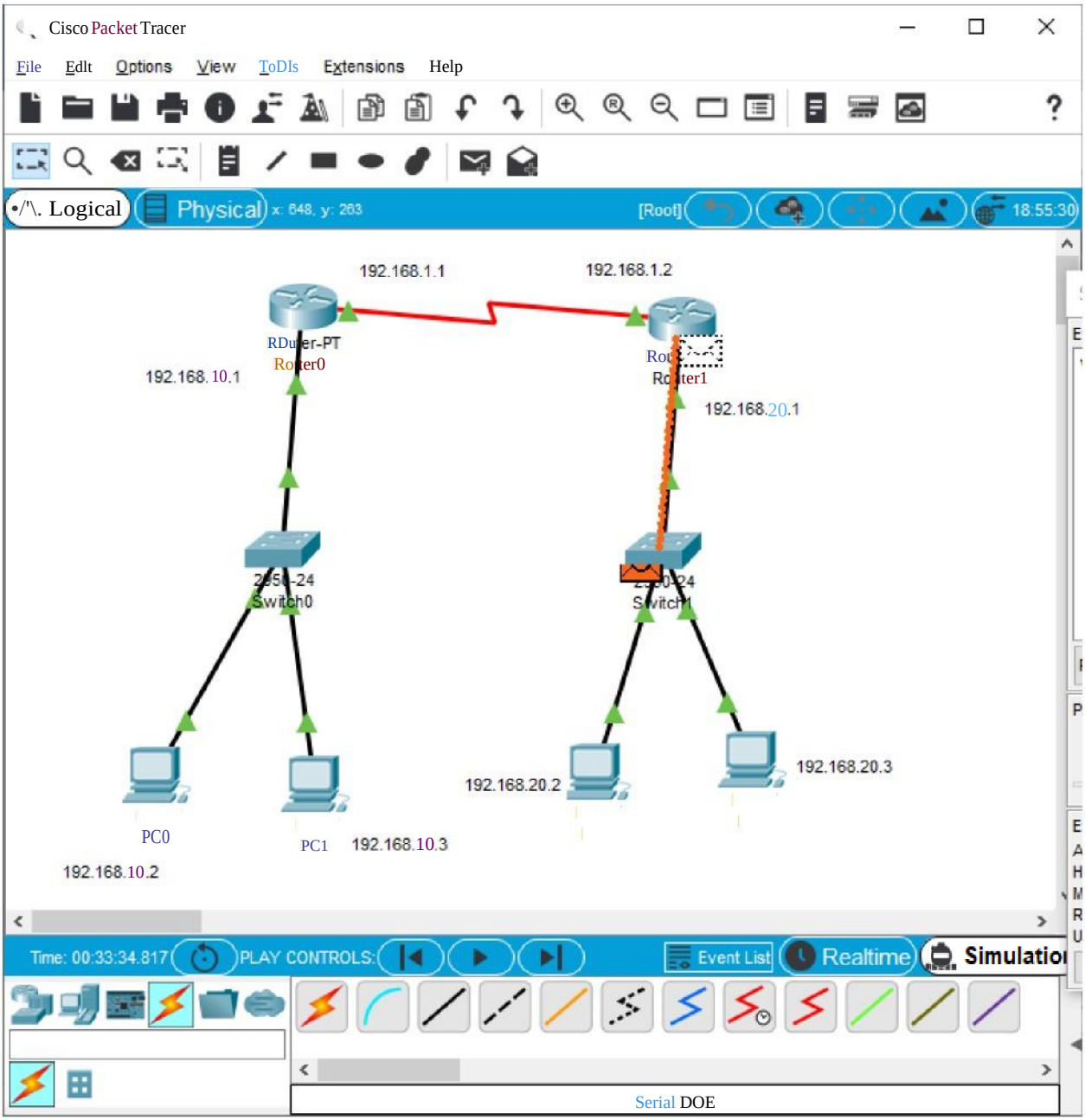

Cisco Packet Tracer
File Edlt Options View ToDIs Extensions Help
•/'\. Logical
Physical
x: 534, y: 234
[Root]
17:08:00
192.168.1.1
192.168.1.2
RDuter-PT
Router0
Router-PT
Router1
192.168. 10.1
192.168.20.1
2950-24
Switch0
2950-24
Switch1
PC0
PC1
192.168.10.3
192.168.10.2
192.168.20.2
192.168.20.3
Time: 00:33:11.760
PLAY CONTROLS:
Event List
Realtime
Simulatio
Serial DOE

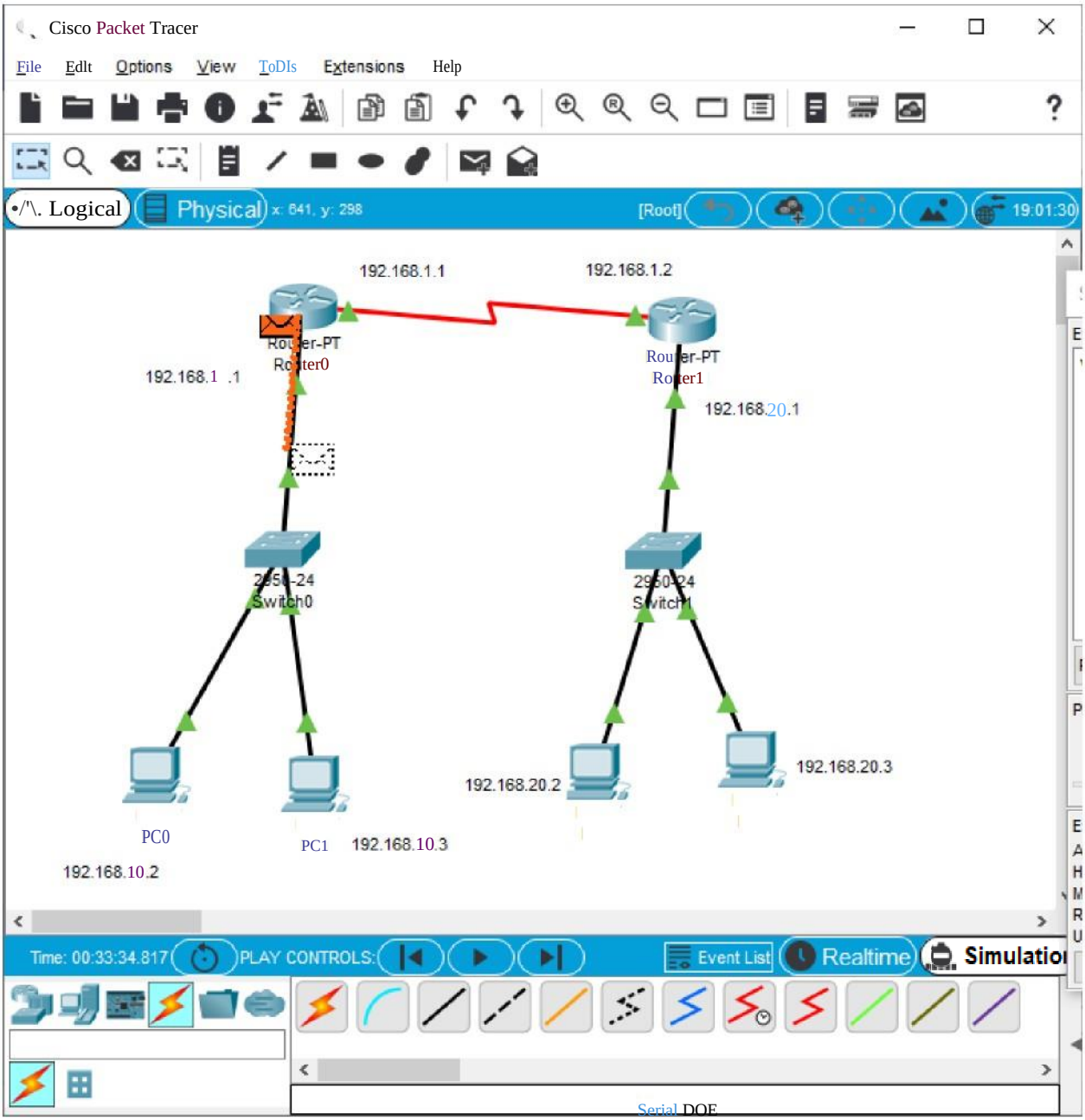

Cisco Packet Tracer
File Edlt Options View ToDIs Extensions Help
•/'\. Logical
Physical
x: 586, y: 254
[Root]
17:16:00
192.168.1.1
192.168.1.2
RDuter-PT
Router0
Router-PT
Router1
192.168. 10.1
192.168.20.1
Switch0
Switch1
PC0
PC1
192.168.10.3
192.168.10.2
192.168.20.2
192.168.20.3
Time: 00:33:11.766
PLAY CONTROLS:
Event List
Realtime
Simulatio
Serial DOE

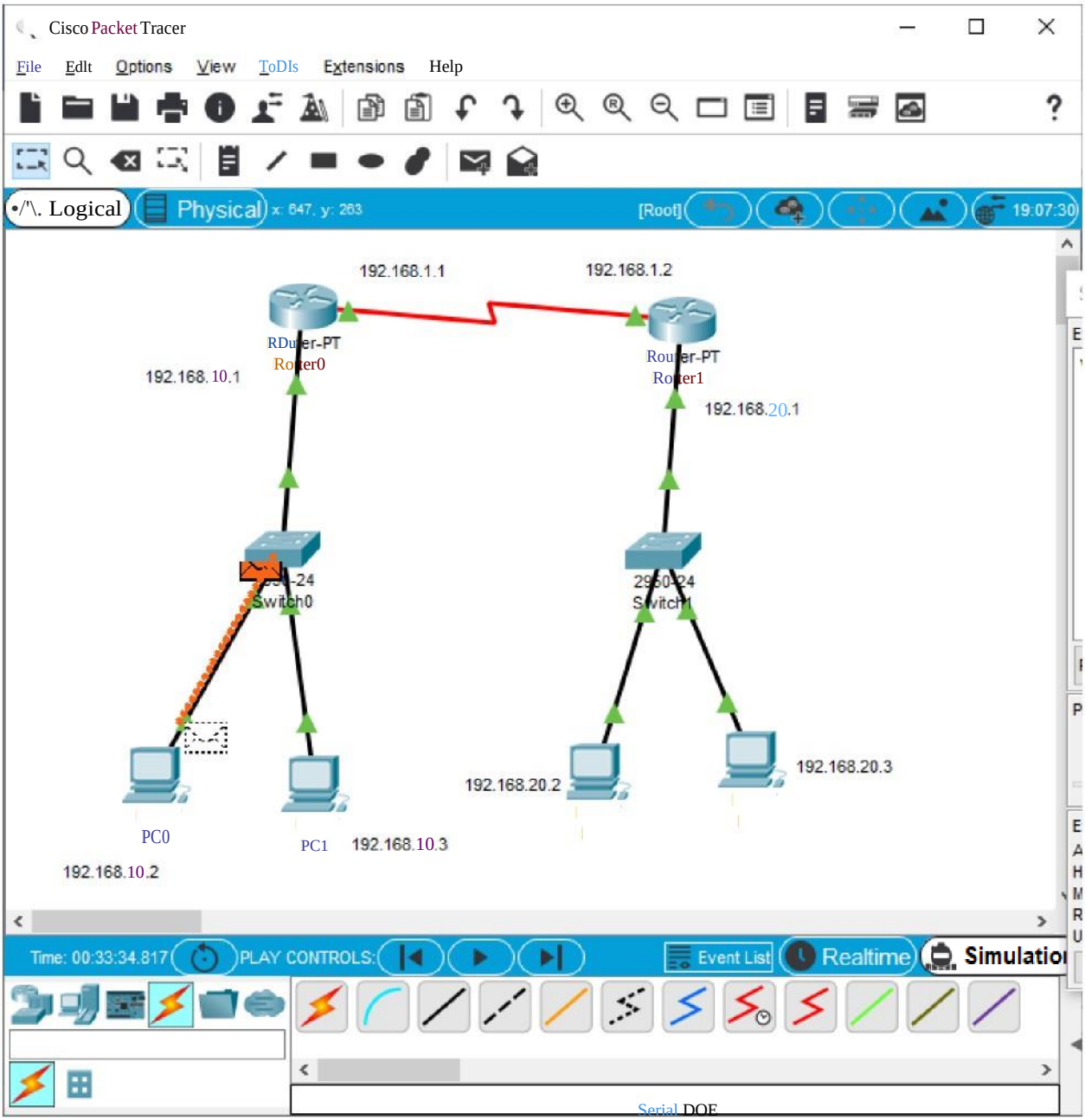

Cisco Packet Tracer
File Edlt Options View ToDIs Extensions Help
•/'\. Logical
Physical
x: 547, y: 197
[Root]
18:25:30
192.168.1.1
192.168.1.2
Router-PT
Router0
192.168.10.1
Router-PT
Router1
192.168.20.1
2950-24
Switch0
2950-24
Switch1
PC0
192.168.10.2
PC1
192.168.10.3
192.168.20.2
192.168.20.3
Time: 00:33:34.817
PLAY CONTROLS:
Event List
Realtime
Simulation
Serial DOE

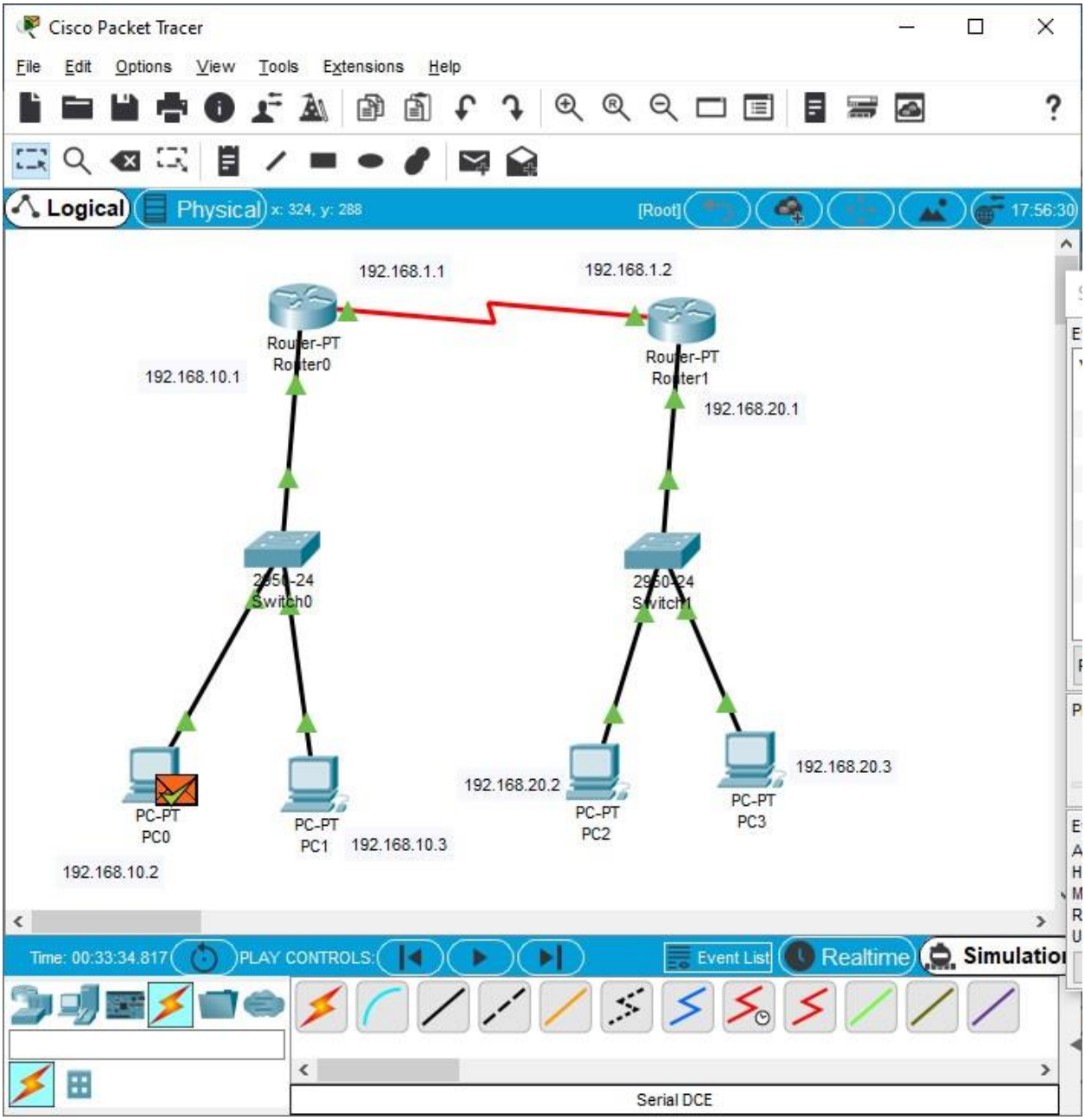

Cisco Packet Tracer
File Edlt Options View ToDIs Extensions Help
•/'\. Logical
Physical
x: 563, y: 299
[Root]
18:37:30
192.168.1.1
192.168.1.2
RDuter-PT
Router0
Router-PT
Router1
192.168.10.1
192.168.20.1
2950-24
Switch0
2950-24
Switch1
PC0
PC1
192.168.10.3
192.168.10.2
192.168.20.2
192.168.20.3
Time: 00:33:34.817
PLAY CONTROLS:
Event List
Realtime
Simulation
Serial DOE


Cisco Packet Tracer
File Edlt Options View ToDIs Extensions Help
•/'\. Logical
Physical
x: 613, y: 216
[Root]
18:49:30
192.168.1.1
192.168.1.2
RDuter-PT
Router0
Router-PT
Router1
192.168. 10.1
192.168.20.1
2950-24
Switch0
Switch
PC0
PC1
192.168.10.3
192.168.10.2
192.168.20.2
192.168.20.3
Time: 00:33:34.817
PLAY CONTROLS:
Event List
Realtime
Simulatio
Serial DOE


Cisco Packet Tracer
File Edlt Options View ToDIs Extensions Help
Logical
Physical
[Root]
18:55:30
192.168.1.1
192.168.1.2
RDuter-PT
Router0
192.168.10.1
192.168.20.1
Switch0
Switch1
PC0
PC1
192.168.10.3
192.168.10.2
192.168.20.2
192.168.20.3
Time: 00:33:34.817
PLAY CONTROLS:
Event List
Realtime
Serial DOE

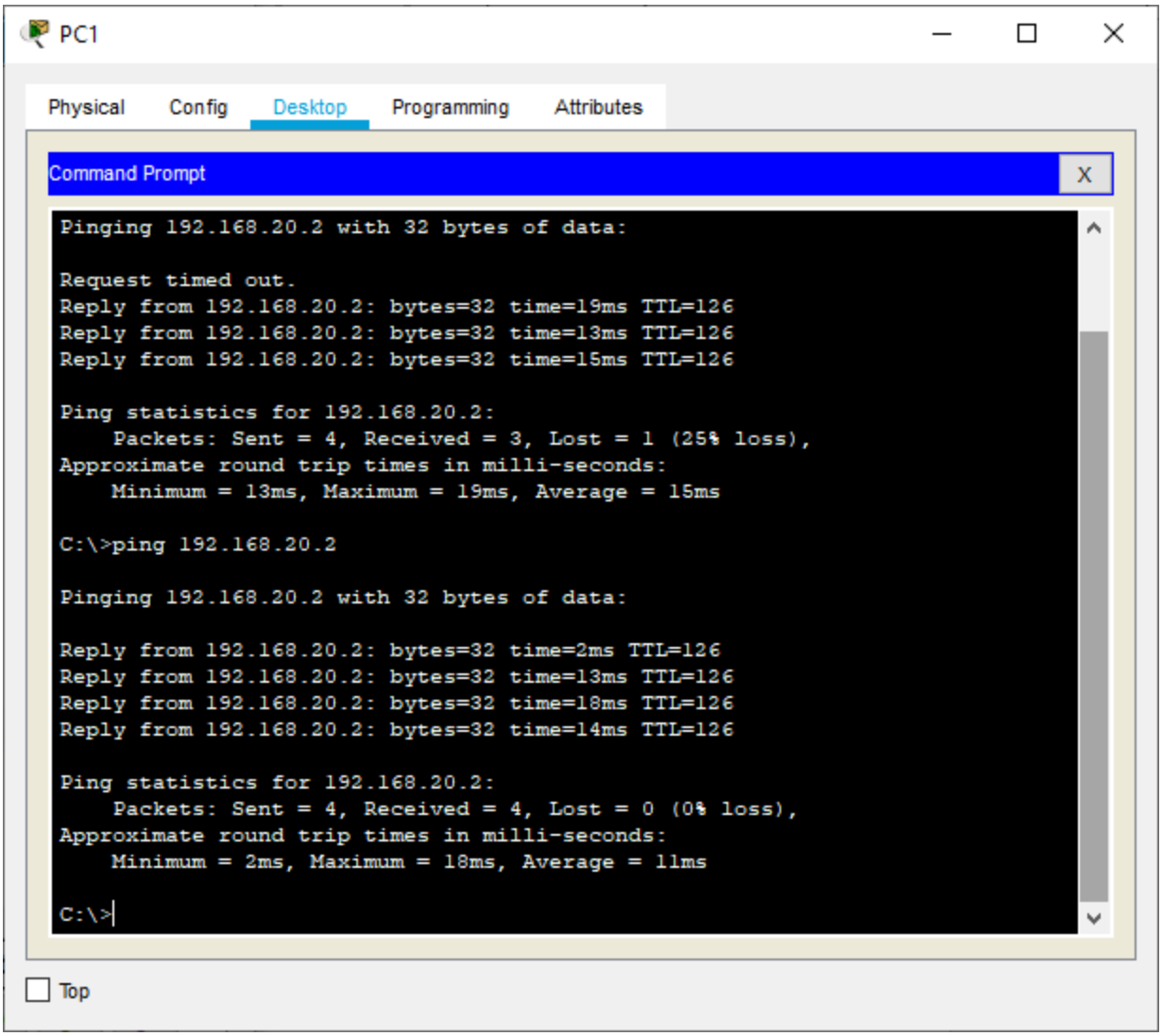

Cisco Packet Tracer
File Edlt Options View ToDIs Extensions Help
•/'\. Logical
Physical
x: 641, y: 298
[Root]
19:01:30
192.168.1.1
192.168.1.2
Router-PT
Router0
Router-PT
Router1
192.168.1 .1
192.168.20.1
2950-24
Switch0
2950-24
Switch1
192.168.20.2
192.168.20.3
PC0
PC1
192.168.10.3
192.168.10.2
Time: 00:33:34.817
PLAY CONTROLS:
Event List
Realtime
Simulation
Serial DOE


Cisco Packet Tracer
File Edlt Options View ToDIs Extensions Help
•/'\. Logical
Physical
x: 647, y: 263
[Root]
19:07:30
192.168.1.1
192.168.1.2
RDuter-PT
Router0
Router-PT
Router1
192.168. 10.1
192.168.20.1
Switch0
Switch1
192.168.20.2
192.168.20.3
PC0
PC1
192.168.10.3
192.168.10.2
Time: 00:33:34.817
PLAY CONTROLS:
Event List
Realtime
Simulatio
Serial DOE



Connection Testing Between Different Networks

Testing the connection between PC1 and PC2 both belongs to different networks.



So, they are communicating.