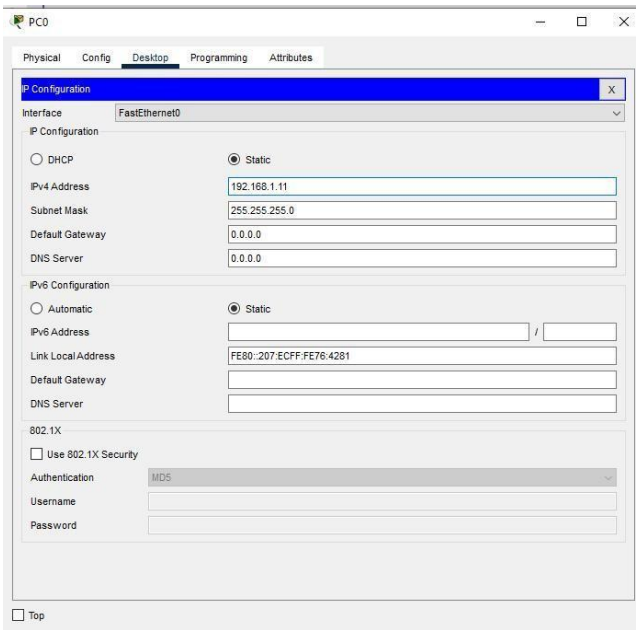
21BCE7371
RADHA KRISHNA GARG

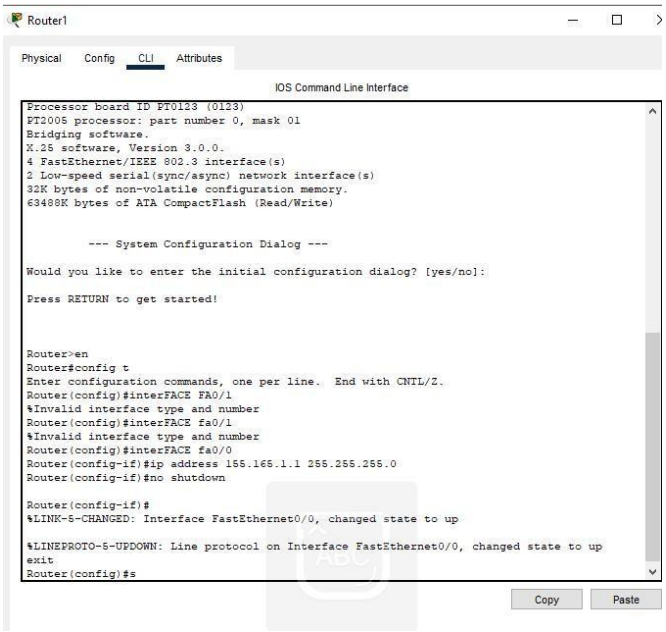
SUBNETTING and VERIFICATION

OSPF:

Create the following configuration.

Configure PC0 with IPv4 of 192.168.1.11 and default gateway of 192.168.1.1. Similarly PC1 with IPv4 of 155.165.1.11 and default gateway of 155.165.1.1 Assign Router0 with 192.168.1.1 and Router1 with 155.165.1.1 in FastEthernet0/0. Save the configuration by clicking on Save NVRAM.
Open Router2 and enter 10.0.0.1 in Serial2/0 and switch on port status. Set the clock rate to 64000. Enter 30.0.0.1 in Serial3/0 and switch on the port status. Set the clock rate to 64000.
Open Router1, go to Serial2/0 and enter 30.0.0.2 and switch on the port status. Set the clock rate to 'Not Set'. Open Serial3/0 and enter 20.0.0.2 and switch on the port status. Set the clock rate to 'Not Set
Open Router0, go to Serial2/0 and enter 10.0.0.2 and switch on the port status. Set the clock rate to 'Not Set'. Open Serial3/0 and enter 20.0.0.1 and switch on the port status. Set the clock rate to 64000.
Open the CLI of Router0, Router1 and Router2 and enter the following commands.




Router1
Physical
Config
CLI
Attributes
IOS Command Line Interface
Processor board ID PT0123 (0123)
PT2005 processor: part number 0, mask 01
Bridging software.
X.25 software, Version 3.0.0.
4 FastEthernet/IEEE 802.3 interface(s)
2 Low-speed serial(sync/async) network interface(s)
32K bytes of non-volatile configuration memory.
63488K bytes of ATA CompactFlash (Read/Write)
--- System Configuration Dialog ---
Would you like to enter the initial configuration dialog? [yes/no]:
Press RETURN to get started!
Router>en
Router#config t
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#interFACE FA0/1
%Invalid interface type and number
Router(config)#interFACE fa0/1
%Invalid interface type and number
Router(config)#interFACE fa0/0
Router(config-if)#ip address 155.165.1.1 255.255.255.0
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
exit
Router(config)#s
Copy
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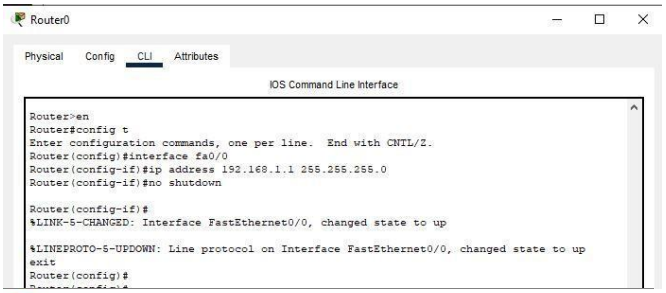
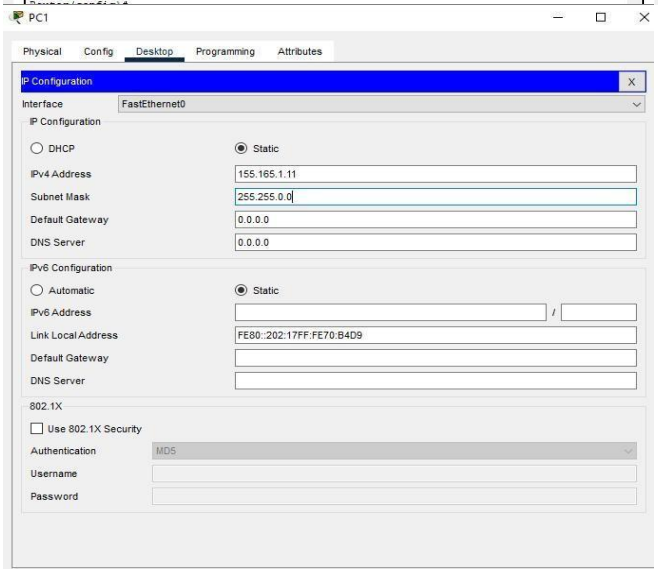
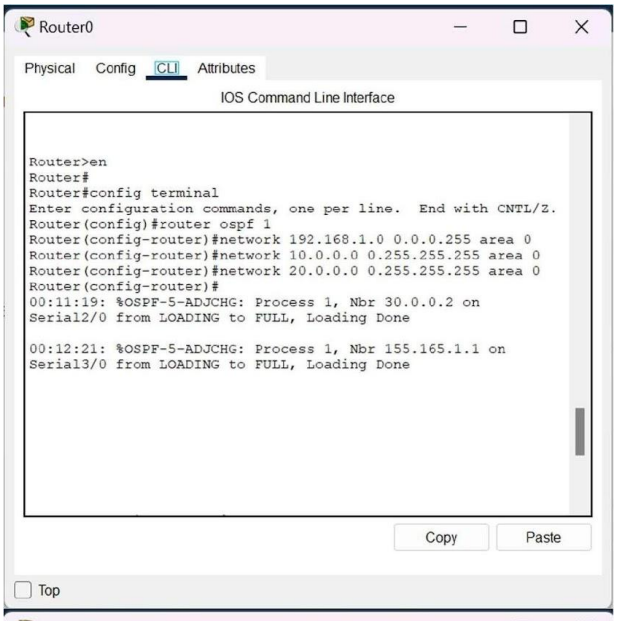

Router0
Physical
Config
CLI
Attributes
IOS Command Line Interface
Router>en
Router#config t
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#interface fa0/0
Router(config-if)#ip address 192.168.1.1 255.255.255.0
Router(config-if)#no shutdown
Router(config-if)#
%LINK-5-CHANGED: Interface FastEthernet0/0, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0, changed state to up
exit
Router(config)#


PC1
Physical
Config
Desktop
Programming
Attributes
IP Configuration
X
Interface
FastEthernet0
IP Configuration
DHCP
Static
IPv4 Address
155.165.1.11
Subnet Mask
255.255.0.0
Default Gateway
0.0.0.0
DNS Server
0.0.0.0
IPv6 Configuration
Automatic
Static
IPv6 Address
Link Local Address
FE80::202:17FF:FE70:B4D9
Default Gateway
DNS Server
802.1X
Use 802.1X Security
Authentication
MD5
Username
Password


Router0
Physical
Config
CLI
Attributes
IOS Command Line Interface
Router>en
Router#
Router#config terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#router ospf 1
Router(config-router)#network 192.168.1.0 0.0.0.255 area 0
Router(config-router)#network 10.0.0.0 0.255.255.255 area 0
Router(config-router)#network 20.0.0.0 0.255.255.255 area 0
Router(config-router)#
00:11:19: %OSPF-5-ADJCHG: Process 1, Nbr 30.0.0.2 on
Serial2/0 from LOADING to FULL, Loading Done
00:12:21: %OSPF-5-ADJCHG: Process 1, Nbr 155.165.1.1 on
Serial3/0 from LOADING to FULL, Loading Done
Copy
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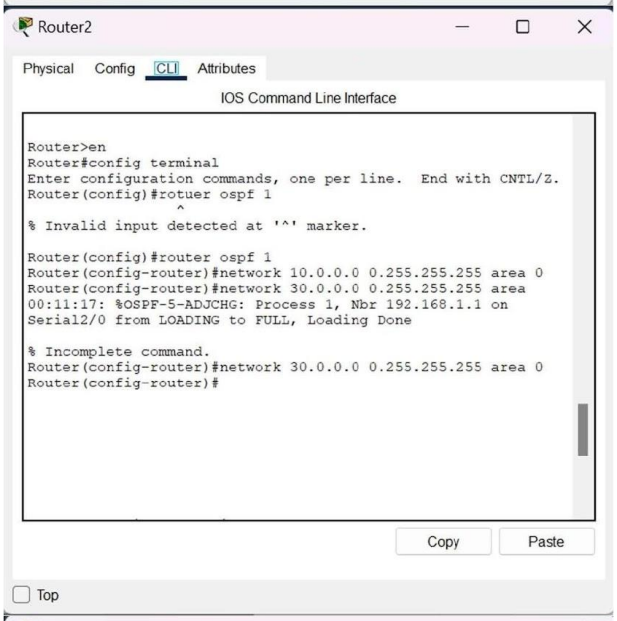
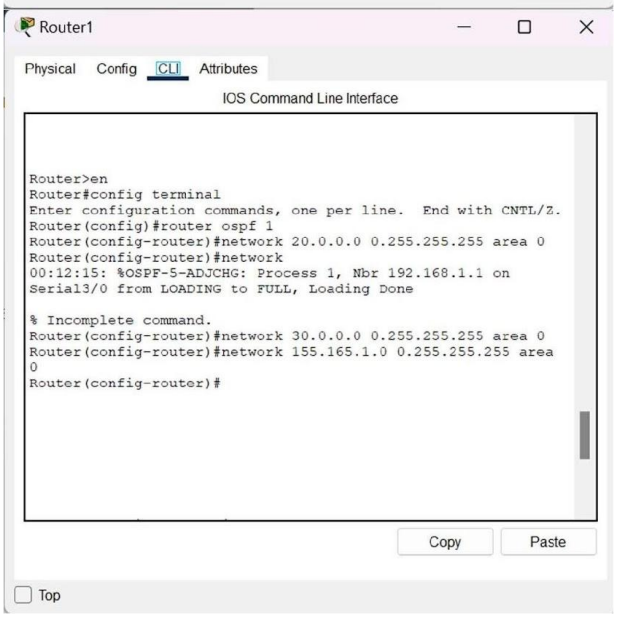
Top


Router2
Physical
Config
CLI
Attributes
IOS Command Line Interface
Router>en
Router#config terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#rotuer ospf 1
^
% Invalid input detected at '^' marker.
Router(config)#router ospf 1
Router(config-router)#network 10.0.0.0 0.255.255.255 area 0
Router(config-router)#network 30.0.0.0 0.255.255.255 area
00:11:17: %OSPF-5-ADJCHG: Process 1, Nbr 192.168.1.1 on
Serial2/0 from LOADING to FULL, Loading Done
% Incomplete command.
Router(config-router)#network 30.0.0.0 0.255.255.255 area 0
Router(config-router)#
Copy
Paste
Top


Router1
Physical
Config
CLI
Attributes
IOS Command Line Interface
Router>en
Router#config terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#router ospf 1
Router(config-router)#network 20.0.0.0 0.255.255.255 area 0
Router(config-router)#network
00:12:15: %OSPF-5-ADJCHG: Process 1, Nbr 192.168.1.1 on
Serial3/0 from LOADING to FULL, Loading Done
% Incomplete command.
Router(config-router)#network 30.0.0.0 0.255.255.255 area 0
Router(config-router)#network 155.165.1.0 0.255.255.255 area
0
Router(config-router)#
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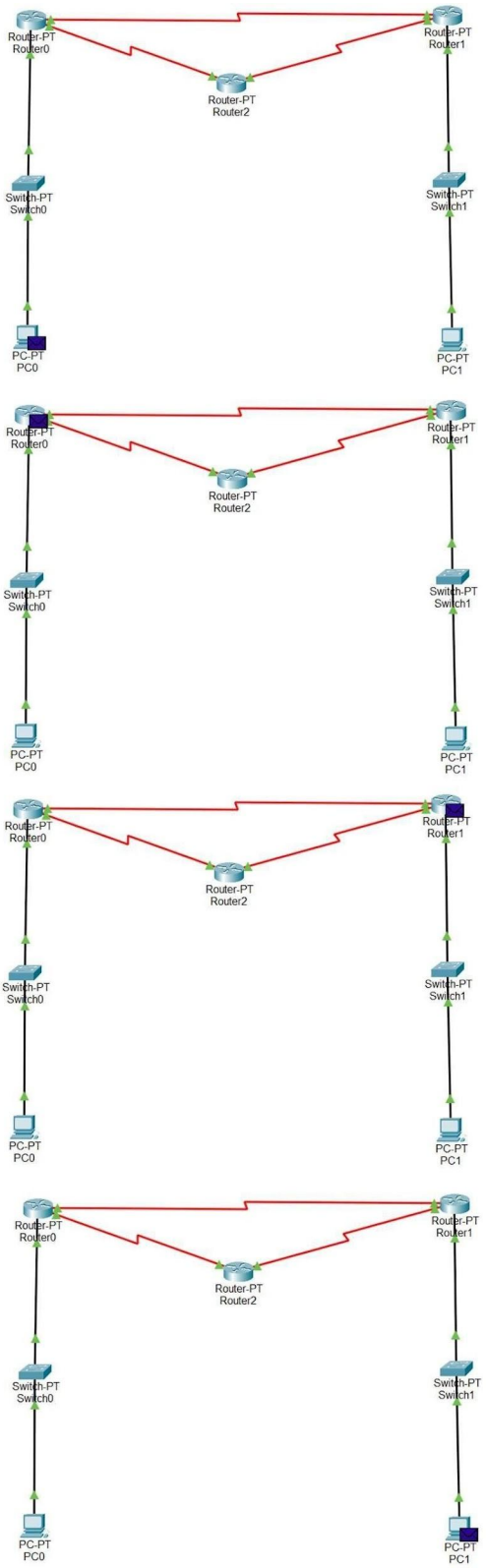
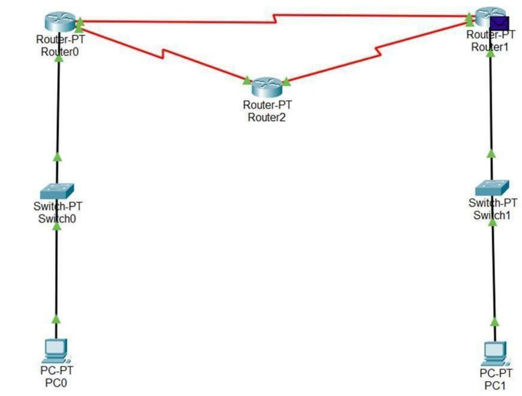
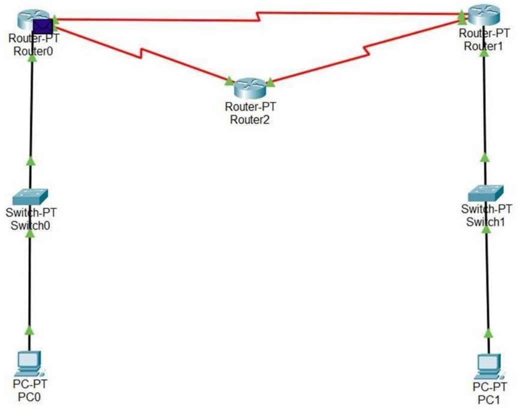
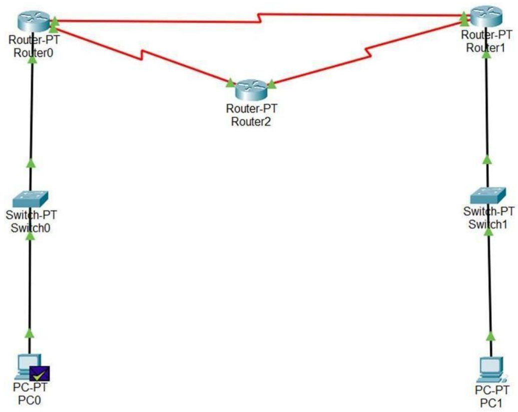
Set the source packet at PC0 and the destination packet as PC1.





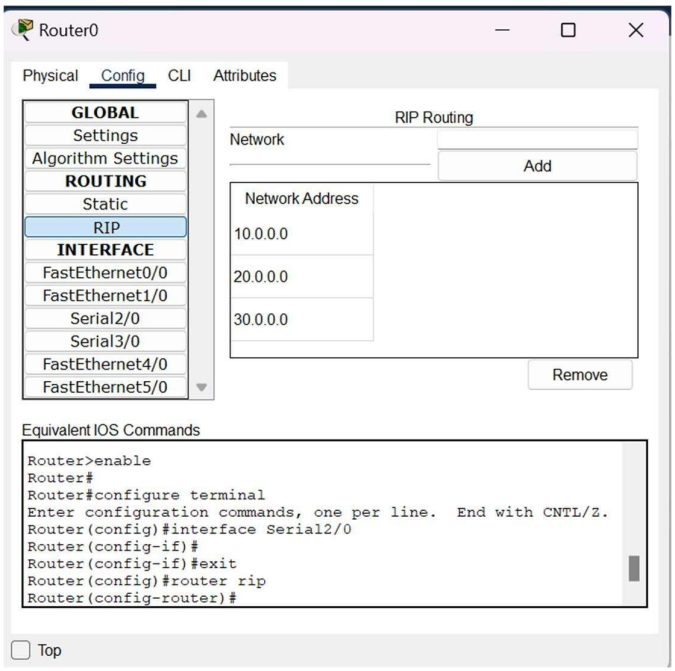




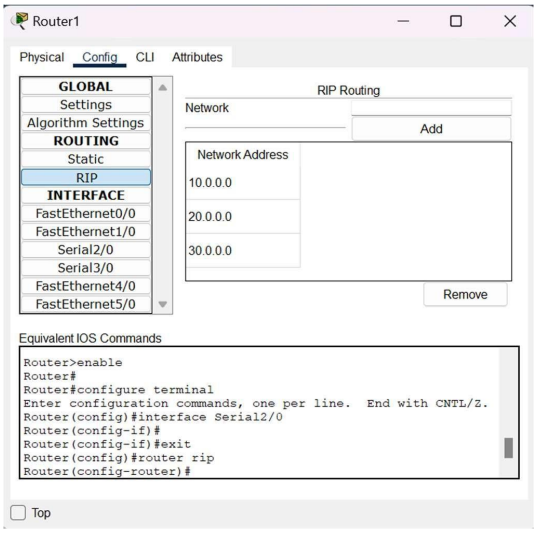
RIP:

Create the following configuration.

Set the IPv4 address and default gateway of PC0 as 10.10.1.2 and 10.10.1.1 respectively. Similarly for PC1 set IPv4 and gateways as 20.20.1.2 and 20.20.1.1 respectively.
Go to FastEthernet0/0 of Router0 and Router1 and set the IPv4 address as 10.10.1.1 and
20.20.1.1 respectively. Switch the Port status on and save the NVRAM.
Open Router0 and go to Serial2/0, enter 30.30.1.2, set the clock rate as 64000 and switch the Port status on. Save the NVRAM.
Similarly go to Serial2/0 in Router1, enter 30.30.1.3, set the clock rate as 'Not Set' and switch the Port Status on. Save the NVRAM.



Go to Router0, open RIP and enter 10.10.1.0, 20.20.1.0 and 30.30.1.0 as Network Addresses. Add the above addresses in Router1 as well.



A package is sent from PC0 to PC1.