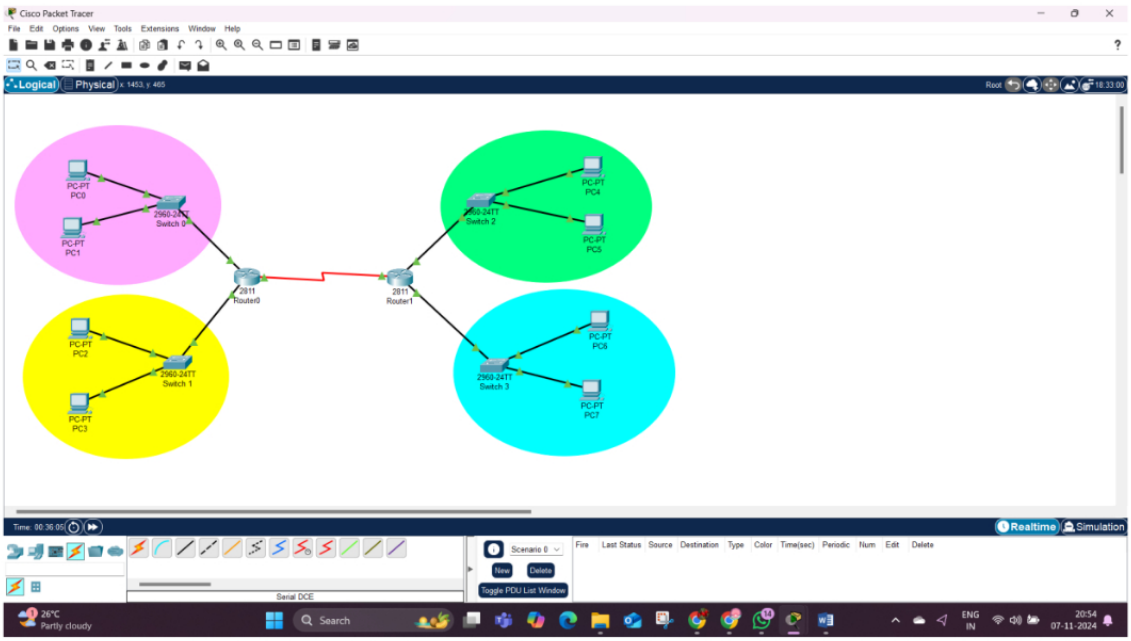
# ***EXPERIMENT – 9***

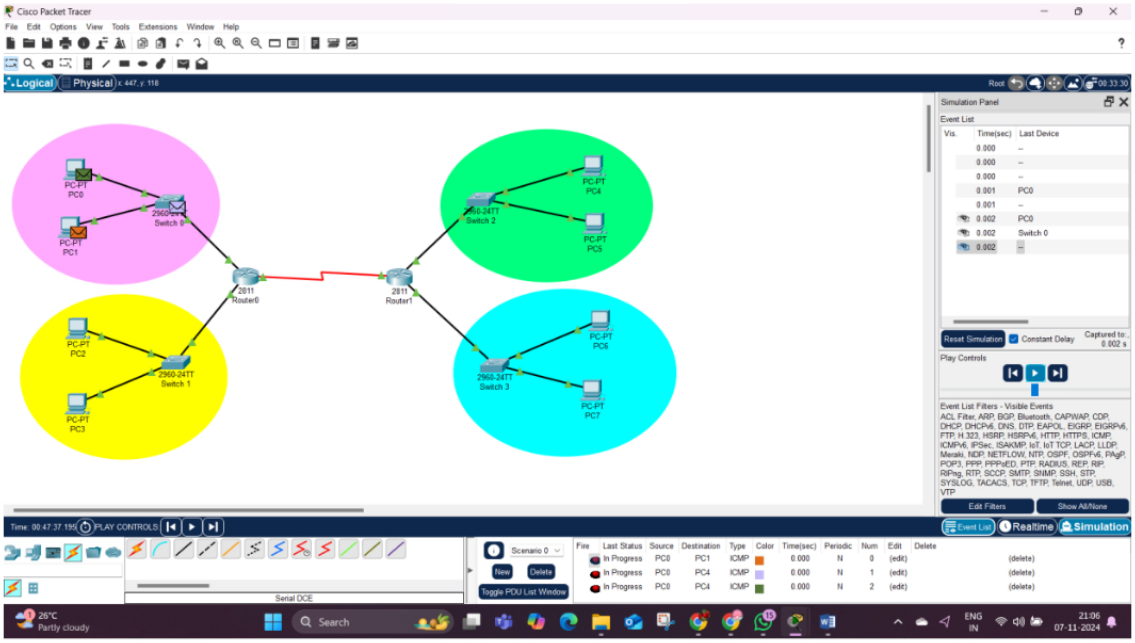
***AIM:*** - Implementation of SUBNETTING inCISCO PACKET TRACER simulator.

### *What is subnetting?*

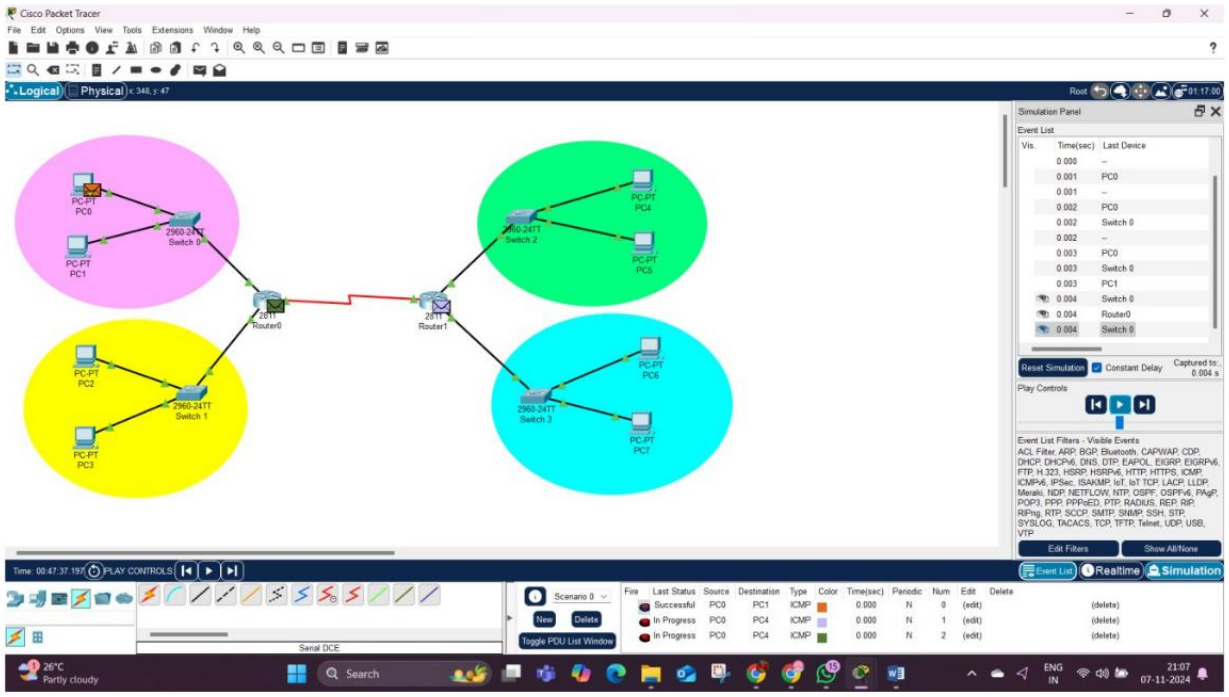
Classless IP subnetting is a technique that allows for more efficient use of IP addresses by allowing for subnet masks that are not just the default masks for each IP class. This means that we can divide our IP address space into smaller subnets, which can be useful when we have a limited number of IP addresses but need to create multiple networks.

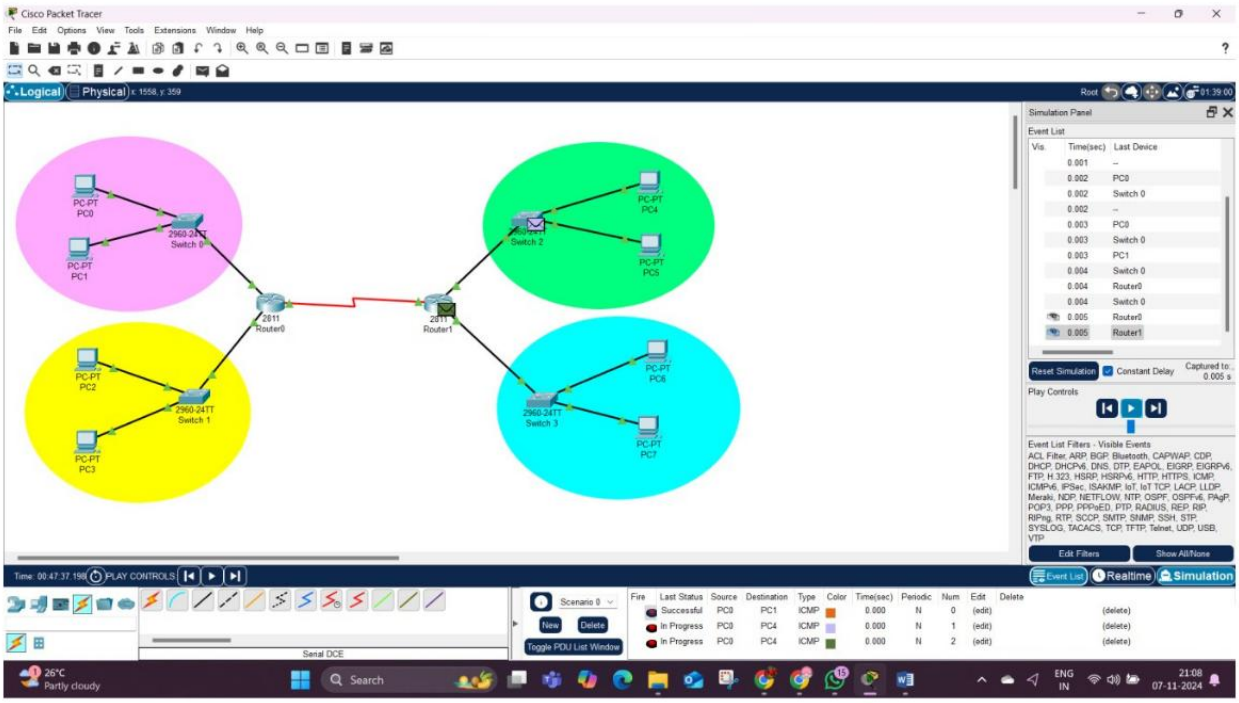
## ***OUTPUT: -***

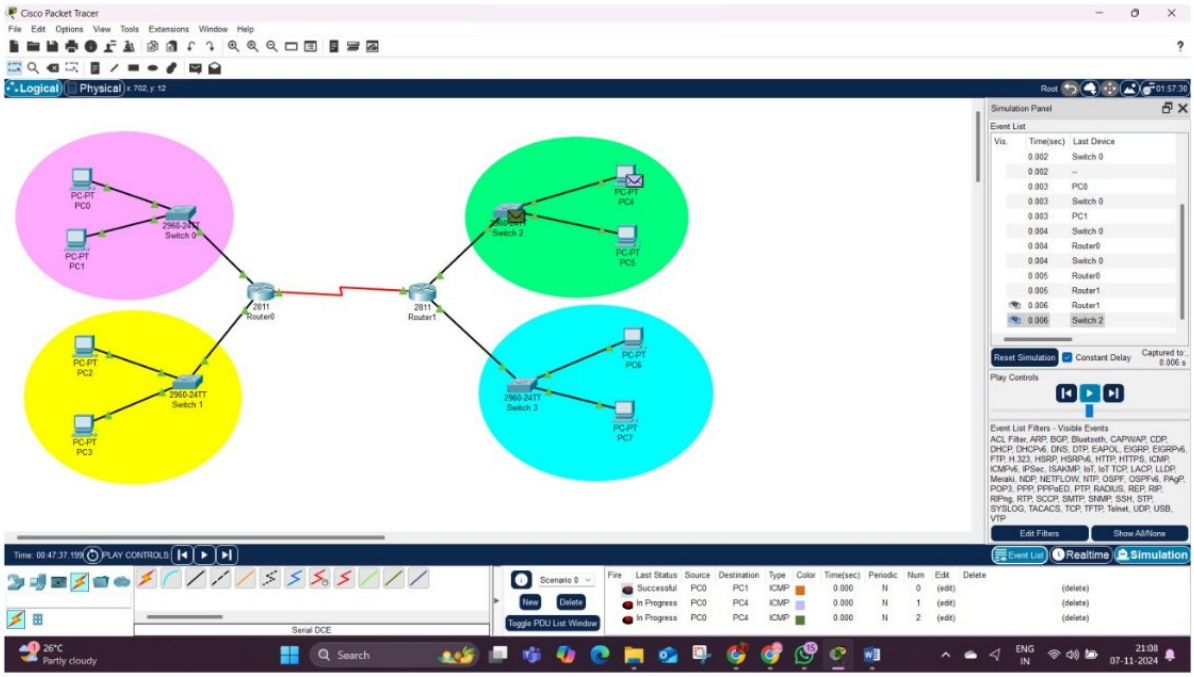


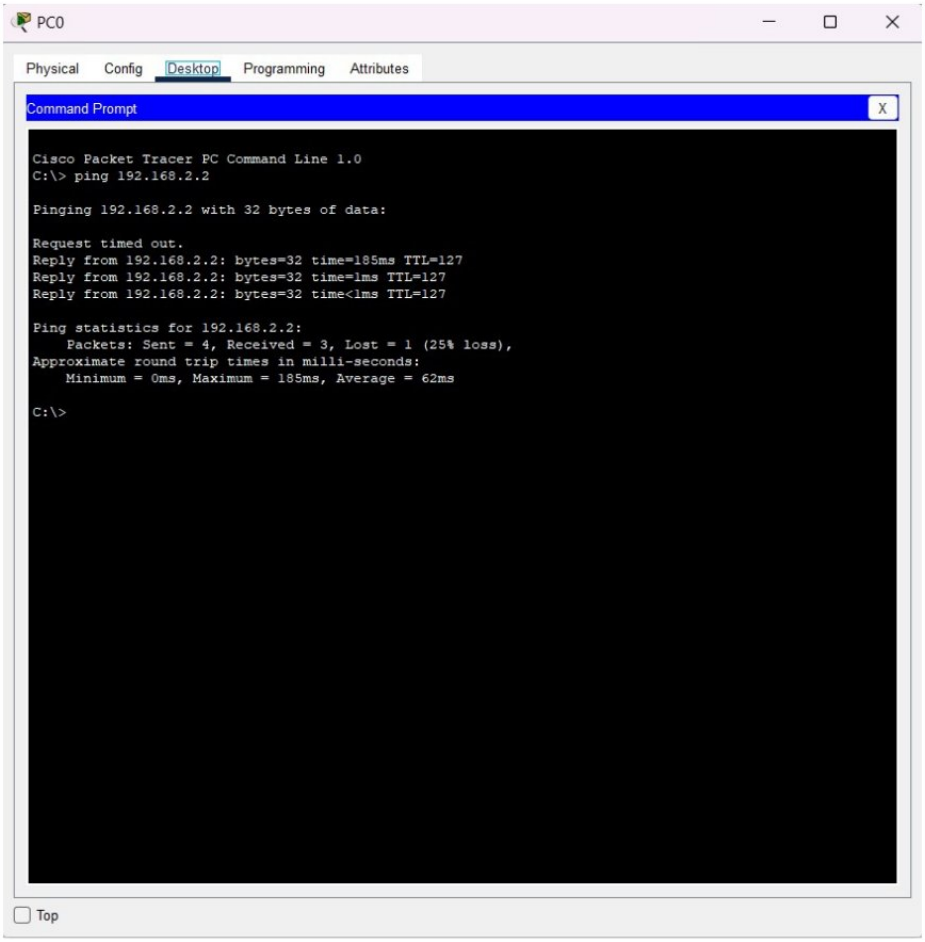



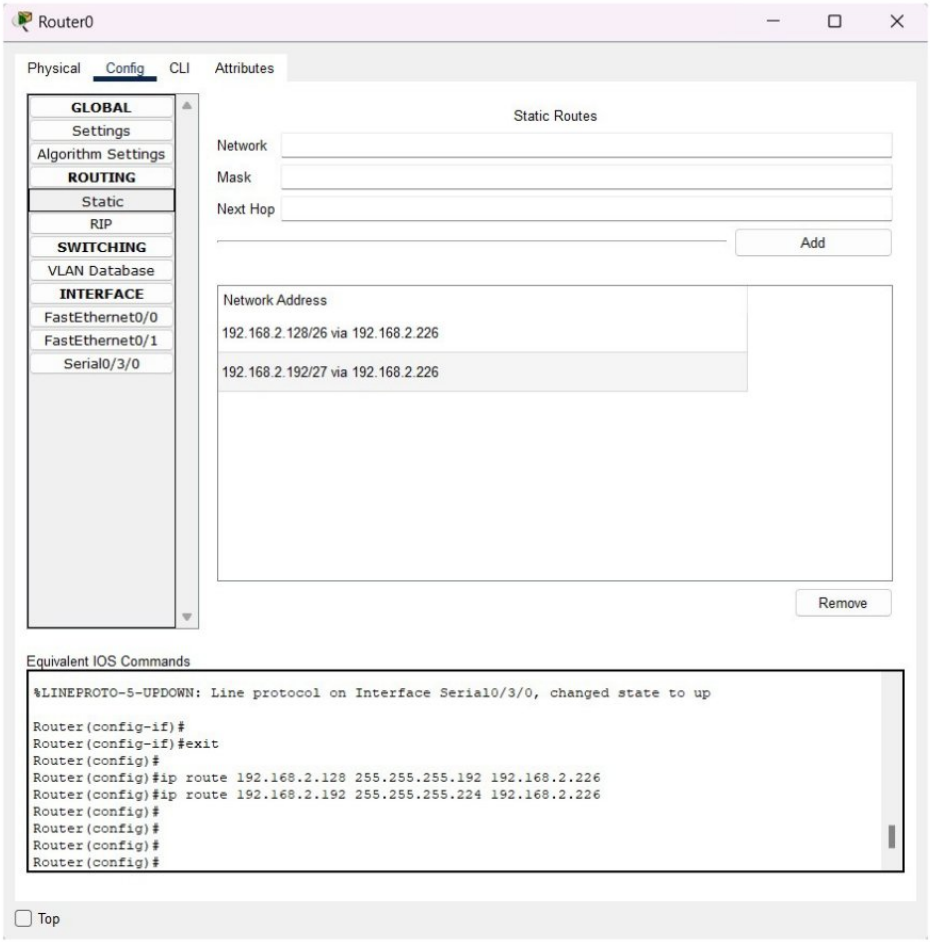
| Fire | Last Status | Source | Destination | Type | Color | Time(sec) | Periodic | Num | Edit | Delete |
|---|---|---|---|---|---|---|---|---|---|---|
| | Successful | PC0 | PC1 | ICMP | | 0.000 | N | 0 | (edit) | (delete) |
| | Failed | PC0 | PC4 | ICMP | | 0.000 | N | 1 | (edit) | (delete) |
| | Successful | PC0 | PC4 | ICMP | | 0.000 | N | 2 | (edit) | (delete) |

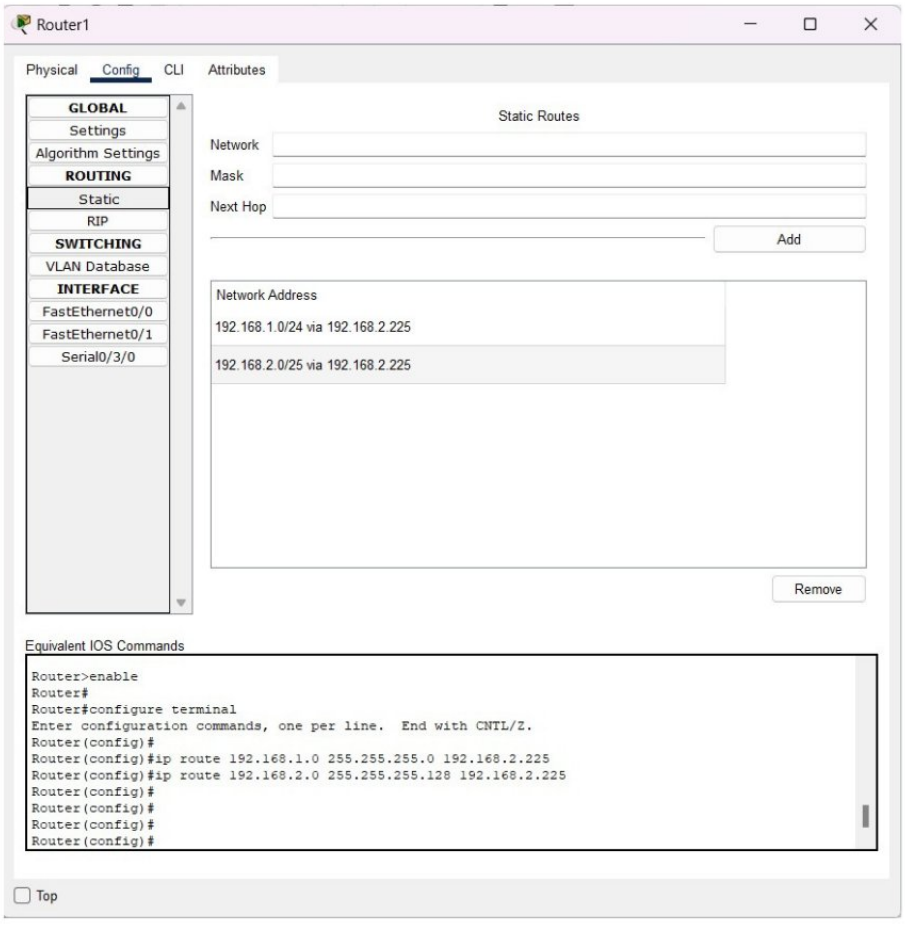


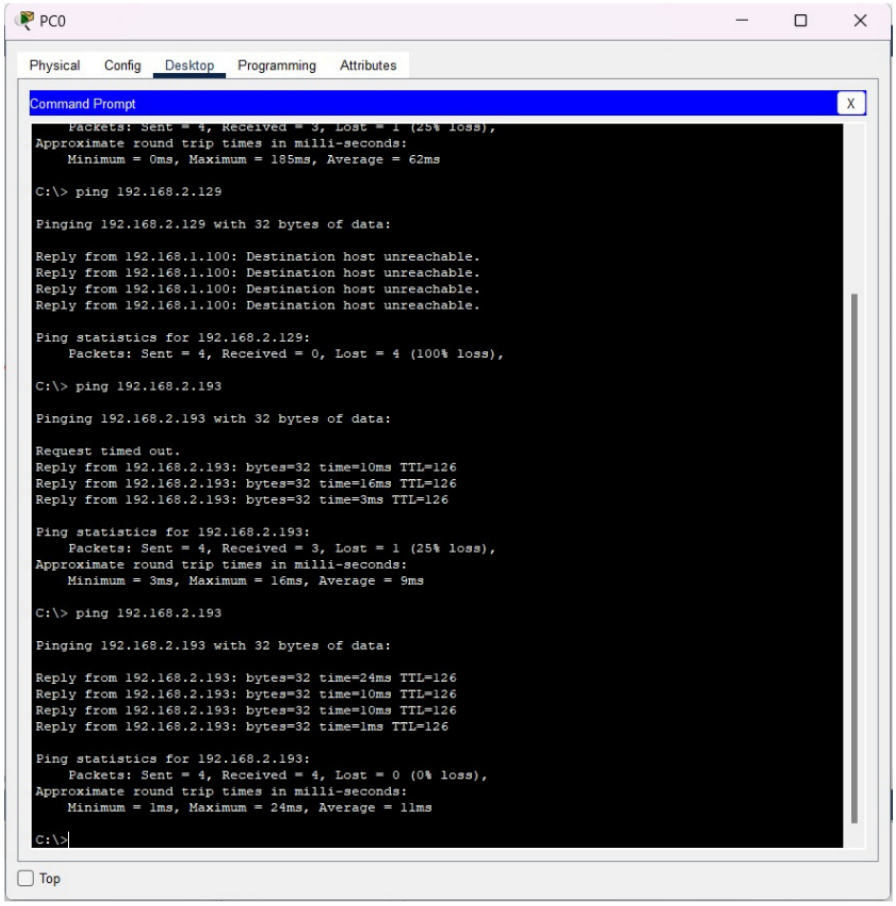




Cisco Packet Tracer
File Edit Options View Tools Extensions Window Help
Logical Physical
PC-PT PC0
PC-PT PC1
2960-24TT Switch 0
PC-PT PC2
PC-PT PC3
2960-24TT Switch 1
2811 Router0
2811 Router1
2960-24TT Switch 2
PC-PT PC4
PC-PT PC5
2960-24TT Switch 3
PC-PT PC6
PC-PT PC7
Simulation Panel
Event List
Vis. Time(sec) Last Device
0.002 Switch 0
0.002 --
0.003 PC0
0.003 Switch 0
0.003 PC1
0.004 Switch 0
0.004 Router0
0.004 Switch 0
0.005 Router0
0.005 Router1
0.006 Router1
0.006 Switch 2
Reset Simulation
Constant Delay
Play Controls
Edit Filters
Show All/None
Realtime
Simulation
Scenario 0
New
Delete
Toggle PDU List Window
Fire Last Status Source Destination Type Color Time(sec) Periodic Num Edit Delete
Successful PC0 PC1 ICMP 0.000 N 0 (edit) (delete)
In Progress PC0 PC4 ICMP 0.000 N 1 (edit) (delete)
In Progress PC0 PC4 ICMP 0.000 N 2 (edit) (delete)
Serial DCE
26°C Partly cloudy
Search
ENG IN
21:08 07-11-2024


PC0
Physical Config Desktop Programming Attributes
Command Prompt
X
Cisco Packet Tracer PC Command Line 1.0
C:\> ping 192.168.2.2
Pinging 192.168.2.2 with 32 bytes of data:
Request timed out.
Reply from 192.168.2.2: bytes=32 time=185ms TTL=127
Reply from 192.168.2.2: bytes=32 time=1ms TTL=127
Reply from 192.168.2.2: bytes=32 time<1ms TTL=127
Ping statistics for 192.168.2.2:
Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),
Approximate round trip times in milli-seconds:
Minimum = 0ms, Maximum = 185ms, Average = 62ms
C:\>
Top


Router0
Physical
Config
CLI
Attributes
GLOBAL
Settings
Algorithm Settings
ROUTING
Static
RIP
SWITCHING
VLAN Database
INTERFACE
FastEthernet0/0
FastEthernet0/1
Serial0/3/0
Static Routes
Network
Mask
Next Hop
Add
Network Address
192.168.2.128/26 via 192.168.2.226
192.168.2.192/27 via 192.168.2.226
Remove
Equivalent IOS Commands
%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial0/3/0, changed state to up
Router(config-if)#
Router(config-if)#exit
Router(config)#
Router(config)#ip route 192.168.2.128 255.255.255.192 192.168.2.226
Router(config)#ip route 192.168.2.192 255.255.255.224 192.168.2.226
Router(config)#
Router(config)#
Router(config)#
Router(config)#
Top


Router1
Physical
Config
CLI
Attributes
GLOBAL
Settings
Algorithm Settings
ROUTING
Static
RIP
SWITCHING
VLAN Database
INTERFACE
FastEthernet0/0
FastEthernet0/1
Serial0/3/0
Static Routes
Network
Mask
Next Hop
Add
Network Address
192.168.1.0/24 via 192.168.2.225
192.168.2.0/25 via 192.168.2.225
Remove
Equivalent IOS Commands
Router>enable
Router#
Router#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#
Router(config)#ip route 192.168.1.0 255.255.255.0 192.168.2.225
Router(config)#ip route 192.168.2.0 255.255.255.128 192.168.2.225
Router(config)#
Router(config)#
Router(config)#
Router(config)#
Top




***RESULT: -***

Implementation of SUBNETTING in CISCOPACKET TRACER simulator have been done successfully