University Practical Examination

Computer Communicatio

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Batch: CSE-02

Aim:

To see the implementation of multi area ospf using cisco packet tracer.

Procedure:

(i) Take 3 routers, 3 switches and 6 PC's.

(ii) Connect all PC's using fast ethernet connection and the routers using serial connection.

(iii) Go to router 0 and enter the following.

Router 0: CLI commands

→ enable
→ conf ter
→ int fa 0/0.
→ ip add 192.168.1.1 255.255.255.0

→ no shut

→ exit

→ int se 2/0

→ ip add 10.0.0.1 255.0.0.0

→ no shut

→ exit

Router 1 : CLI Commands

→ enable

→ conf t

→ int fa 0/0

→ ip add 192.168.2.1 255.255.255.0

→ no shut

→ exit

→ int se 2/0

→ ip add 10.0.0.2 255.0.0.0

→ no shut

→ exit

→ int se 3/0

→ ip add 10.0.0.2 255.0.0.0

→ no shut

→ exit

Router 2 : CLI command.

→ enable
→ conf ter
→ int fa 0/0
→ ip add 192.168.3.1 255.255.255.0
→ no shut
→ exit
→ int se 2/0
→ ip add 20.0.0.1 255.0.0.0
→ no shut
→ exit.

Router 0 : ospf

→ router ospf 1
→ network 192.168.1.0 0.255.255.255 area 0.
→ network 10.0.0.0 0.0.0.255 area 0.

Router 1 : ospf

→ router ospf 1
→ network 10.0.0.0 0.0.0.255 area 0.
→ network 20.0.0.0 0.0.0.255 area 0.

→ network 192.168.2.0 0.255.255.255 area 0.

→ exit

Router 2 : ospf

→ router ospf 1

→ network 192.168.3.0 0.255.255.255 area 0.

→ network 20.0.0.0 0.0.0.255 area 0.

→ exit

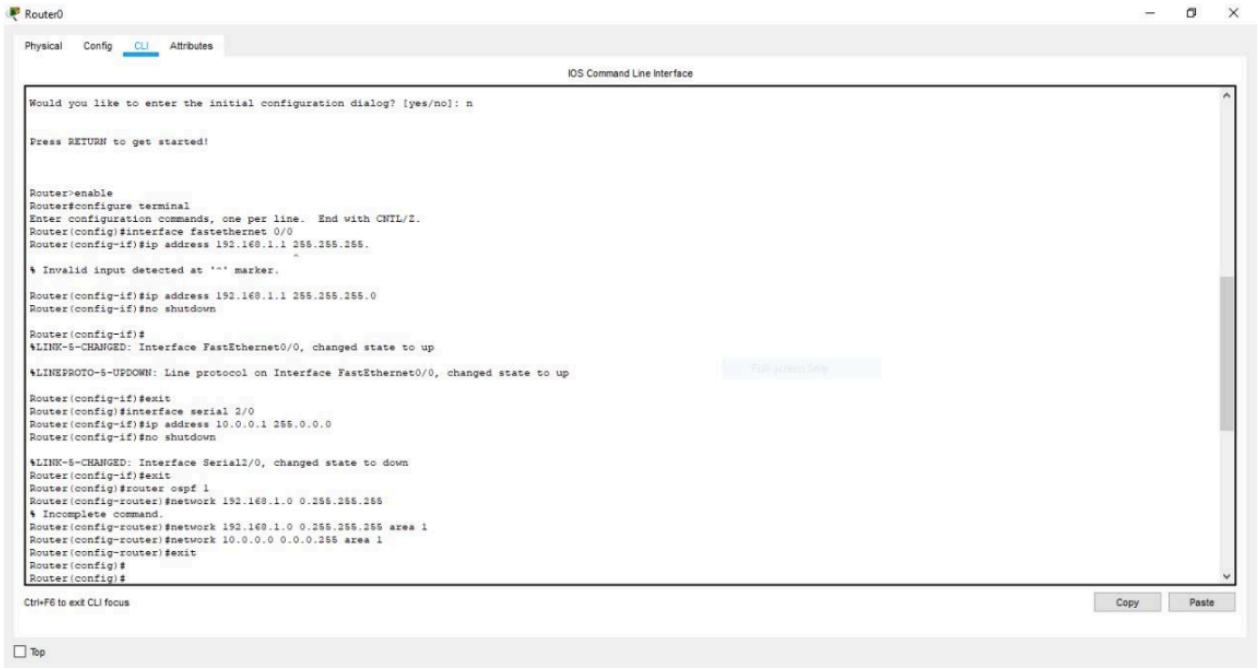
Router 0 :

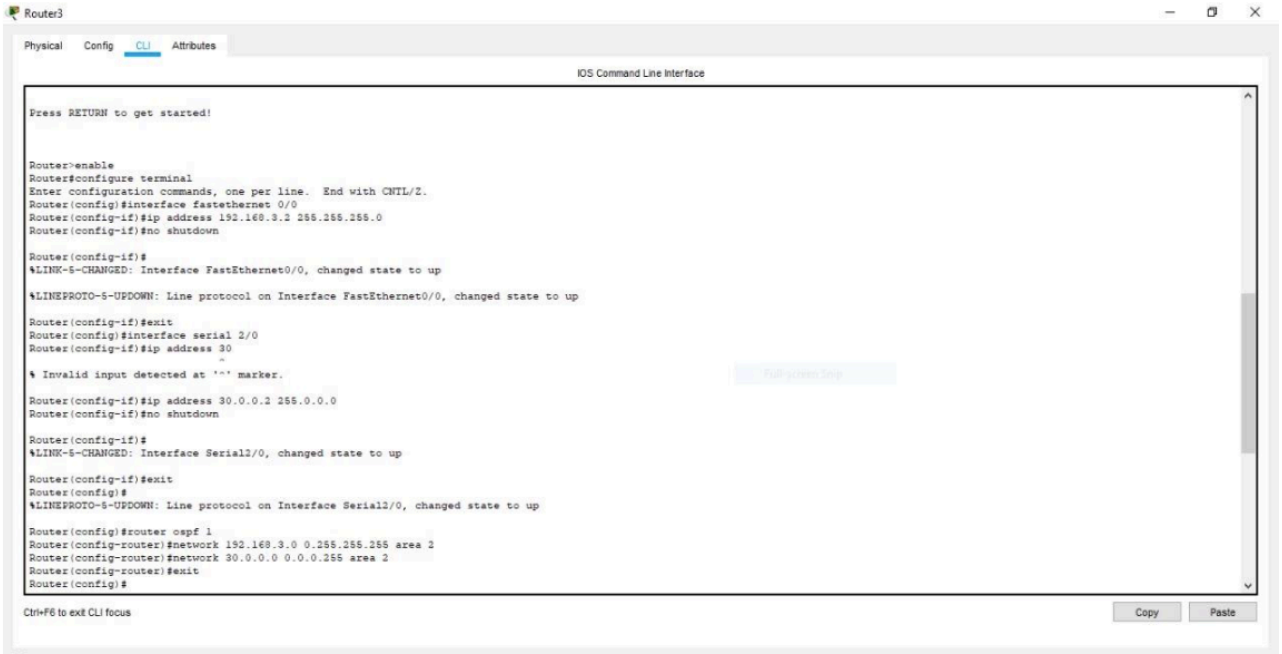
→ do show ip route

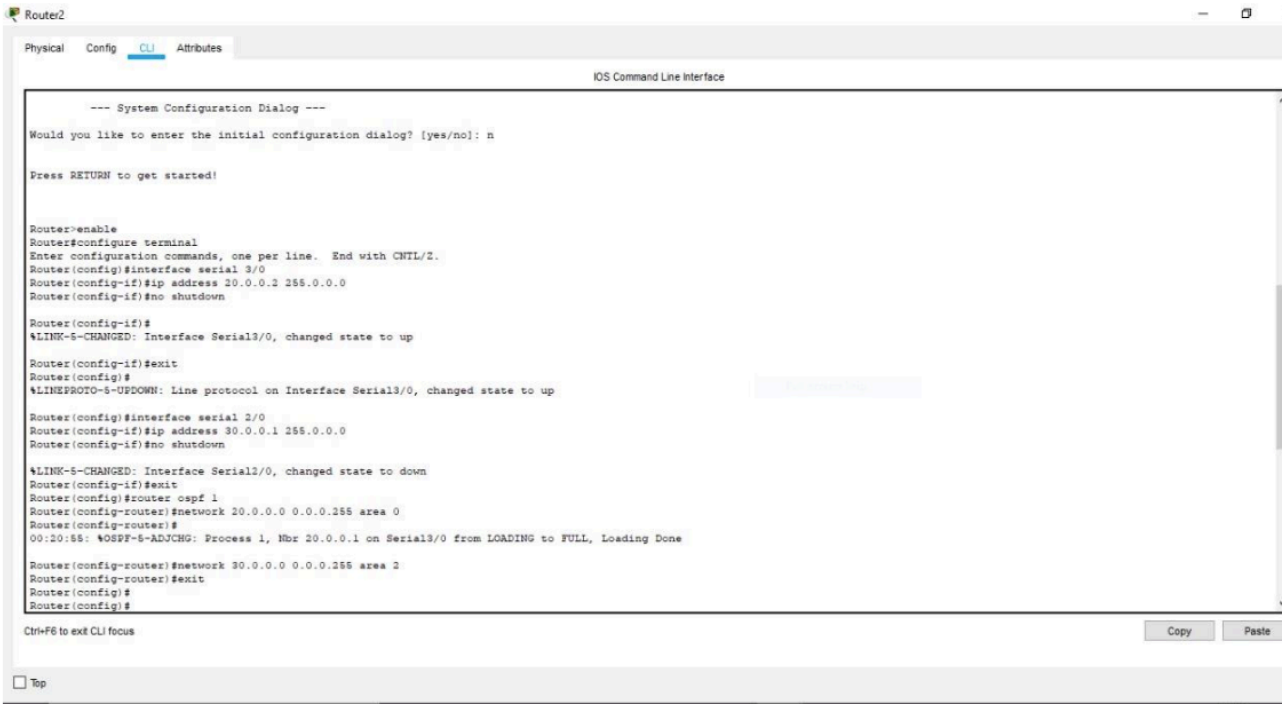
→ Assing all default gateways

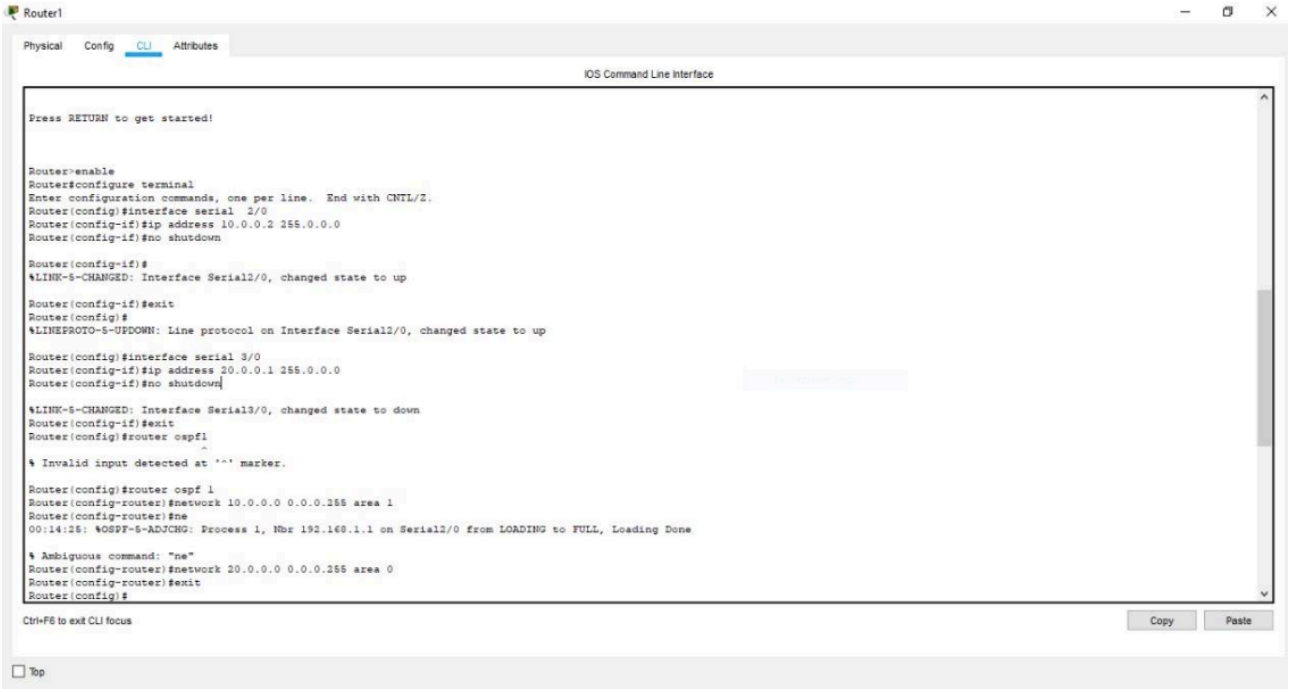
→ Ping 192.168.3.3

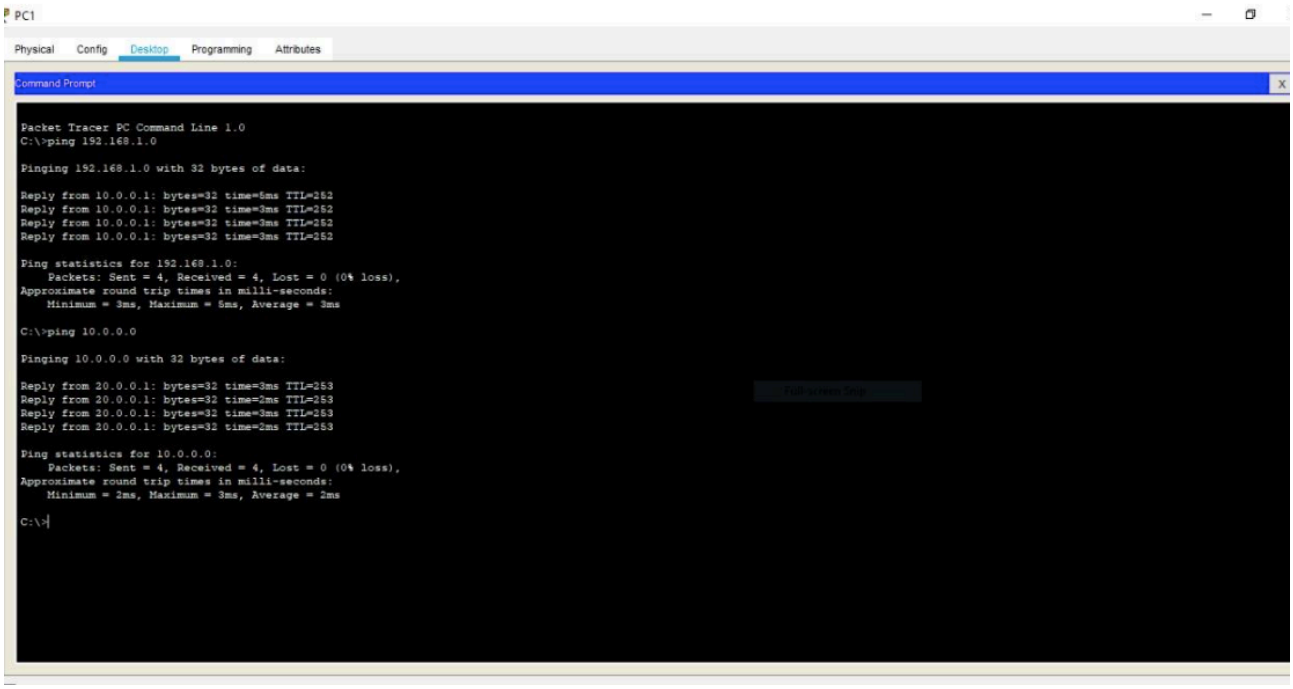
→ Ping 192.168.3.3 in command prompt.

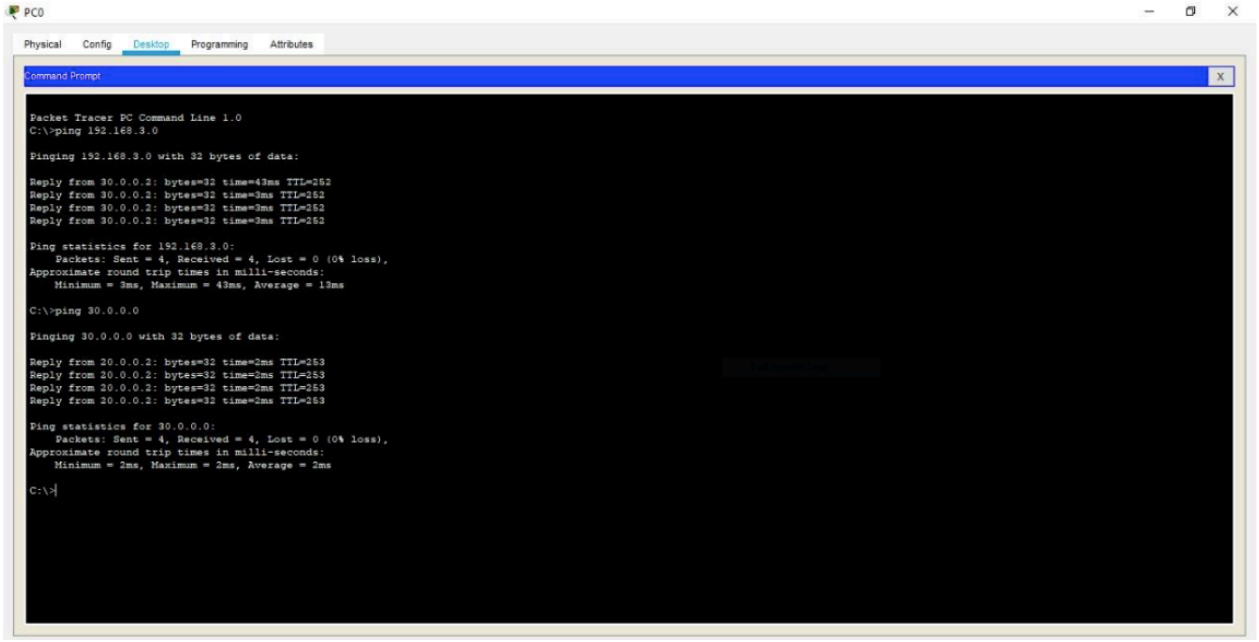

Router0
Physical
Config
CLI
Attributes
IOS Command Line Interface
Would you like to enter the initial configuration dialog? [yes/no]: n
Press RETURN to get started!
Router>enable
Router#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#interface fastethernet 0/0
Router(config-if)#ip address 192.168.1.1 255.255.255.
% Invalid input detected at '^' marker.
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
Router(config-if)#exit
Router(config)#interface serial 2/0
Router(config-if)#ip address 10.0.0.1 255.0.0.0
Router(config-if)#no shutdown
%LINK-5-CHANGED: Interface Serial2/0, changed state to down
Router(config-if)#exit
Router(config)#router ospf 1
Router(config-router)#network 192.168.1.0 0.255.255.255
% Incomplete command.
Router(config-router)#network 192.168.1.0 0.255.255.255 area 1
Router(config-router)#network 10.0.0.0 0.0.0.255 area 1
Router(config-router)#exit
Router(config)#
Router(config)#
Ctrl+F6 to exit CLI focus
Copy
Paste
Top


Router3
Physical
Config
CLI
Attributes
IOS Command Line Interface
Press RETURN to get started!
Router>enable
Router#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#interface fastethernet 0/0
Router(config-if)#ip address 192.168.3.2 255.255.255.0
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
Router(config-if)#exit
Router(config)#interface serial 2/0
Router(config-if)#ip address 30
% Invalid input detected at '^' marker.
Router(config-if)#ip address 30.0.0.2 255.0.0.0
Router(config-if)#no shutdown
Router(config-if)#
%LINK-5-CHANGED: Interface Serial2/0, changed state to up
Router(config-if)#exit
Router(config)#
%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial2/0, changed state to up
Router(config)#router ospf 1
Router(config-router)#network 192.168.3.0 0.255.255.255 area 2
Router(config-router)#network 30.0.0.0 0.0.0.255 area 2
Router(config-router)#exit
Router(config)#
Ctrl+F6 to exit CLI focus
Copy
Paste


Router2
Physical
Config
CLI
Attributes
IOS Command Line Interface
--- System Configuration Dialog ---
Would you like to enter the initial configuration dialog? [yes/no]: n
Press RETURN to get started!
Router>enable
Router#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#interface serial 3/0
Router(config-if)#ip address 20.0.0.2 255.0.0.0
Router(config-if)#no shutdown
Router(config-if)#
%LINK-5-CHANGED: Interface Serial3/0, changed state to up
Router(config-if)#exit
Router(config)#
%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial3/0, changed state to up
Router(config)#interface serial 2/0
Router(config-if)#ip address 30.0.0.1 255.0.0.0
Router(config-if)#no shutdown
%LINK-5-CHANGED: Interface Serial2/0, changed state to down
Router(config-if)#exit
Router(config)#router ospf 1
Router(config-router)#network 20.0.0.0 0.0.0.255 area 0
Router(config-router)#
00:20:55: %OSPF-5-ADJCHG: Process 1, Nbr 20.0.0.1 on Serial3/0 from LOADING to FULL, Loading Done
Router(config-router)#network 30.0.0.0 0.0.0.255 area 2
Router(config-router)#exit
Router(config)#
Router(config)#
Ctrl+F6 to exit CLI focus
Copy
Paste
Top


Router1
Physical
Config
CLI
Attributes
IOS Command Line Interface
Press RETURN to get started!
Router>enable
Router#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#interface serial 2/0
Router(config-if)#ip address 10.0.0.2 255.0.0.0
Router(config-if)#no shutdown
Router(config-if)#
%LINK-5-CHANGED: Interface Serial2/0, changed state to up
Router(config-if)#exit
Router(config)#
%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial2/0, changed state to up
Router(config)#interface serial 3/0
Router(config-if)#ip address 20.0.0.1 255.0.0.0
Router(config-if)#no shutdown
%LINK-5-CHANGED: Interface Serial3/0, changed state to down
Router(config-if)#exit
Router(config)#router ospf1
^
% Invalid input detected at '^' marker.
Router(config)#router ospf 1
Router(config-router)#network 10.0.0.0 0.0.0.255 area 1
Router(config-router)#ne
00:14:25: %OSPF-5-ADJCHG: Process 1, Nbr 192.168.1.1 on Serial2/0 from LOADING to FULL, Loading Done
% Ambiguous command: "ne"
Router(config-router)#network 20.0.0.0 0.0.0.255 area 0
Router(config-router)#exit
Router(config)#
Ctrl+F6 to exit CLI focus
Copy
Paste
Top


PC1
Physical
Config
Desktop
Programming
Attributes
Command Prompt
Packet Tracer PC Command Line 1.0
C:\>ping 192.168.1.0
Pinging 192.168.1.0 with 32 bytes of data:
Reply from 10.0.0.1: bytes=32 time=5ms TTL=252
Reply from 10.0.0.1: bytes=32 time=3ms TTL=252
Reply from 10.0.0.1: bytes=32 time=3ms TTL=252
Reply from 10.0.0.1: bytes=32 time=3ms TTL=252
Ping statistics for 192.168.1.0:
Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
Minimum = 3ms, Maximum = 5ms, Average = 3ms
C:\>ping 10.0.0.0
Pinging 10.0.0.0 with 32 bytes of data:
Reply from 20.0.0.1: bytes=32 time=3ms TTL=253
Reply from 20.0.0.1: bytes=32 time=2ms TTL=253
Reply from 20.0.0.1: bytes=32 time=3ms TTL=253
Reply from 20.0.0.1: bytes=32 time=2ms TTL=253
Ping statistics for 10.0.0.0:
Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
Minimum = 2ms, Maximum = 3ms, Average = 2ms
C:\>


PC0
Physical
Config
Desktop
Programming
Attributes
Command Prompt
Packet Tracer PC Command Line 1.0
C:\>ping 192.168.3.0
Pinging 192.168.3.0 with 32 bytes of data:
Reply from 30.0.0.2: bytes=32 time=43ms TTL=252
Reply from 30.0.0.2: bytes=32 time=3ms TTL=252
Reply from 30.0.0.2: bytes=32 time=3ms TTL=252
Reply from 30.0.0.2: bytes=32 time=3ms TTL=252
Ping statistics for 192.168.3.0:
Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
Minimum = 3ms, Maximum = 43ms, Average = 13ms
C:\>ping 30.0.0.0
Pinging 30.0.0.0 with 32 bytes of data:
Reply from 20.0.0.2: bytes=32 time=2ms TTL=253
Reply from 20.0.0.2: bytes=32 time=2ms TTL=253
Reply from 20.0.0.2: bytes=32 time=2ms TTL=253
Reply from 20.0.0.2: bytes=32 time=2ms TTL=253
Ping statistics for 30.0.0.0:
Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
Minimum = 2ms, Maximum = 2ms, Average = 2ms
C:\>