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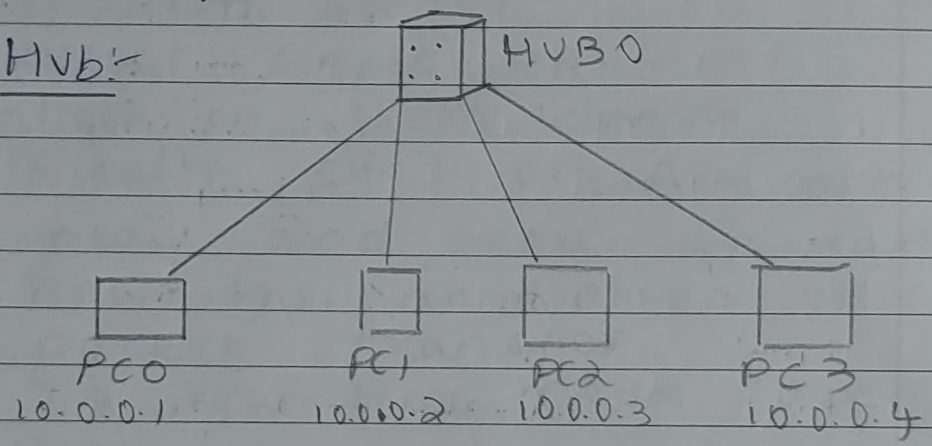
EXPERIMENT-1

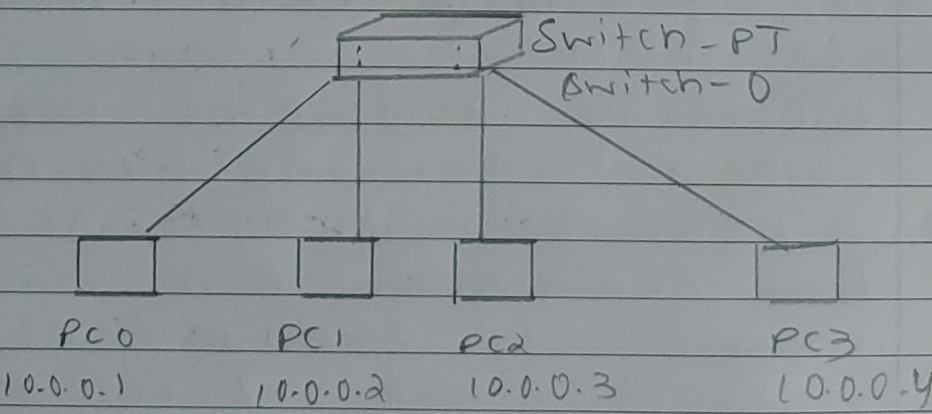
Aim:- Creating a topology and simulate sending a simple PDU from source to destination using hub and switch as connecting devices.

Topology:-

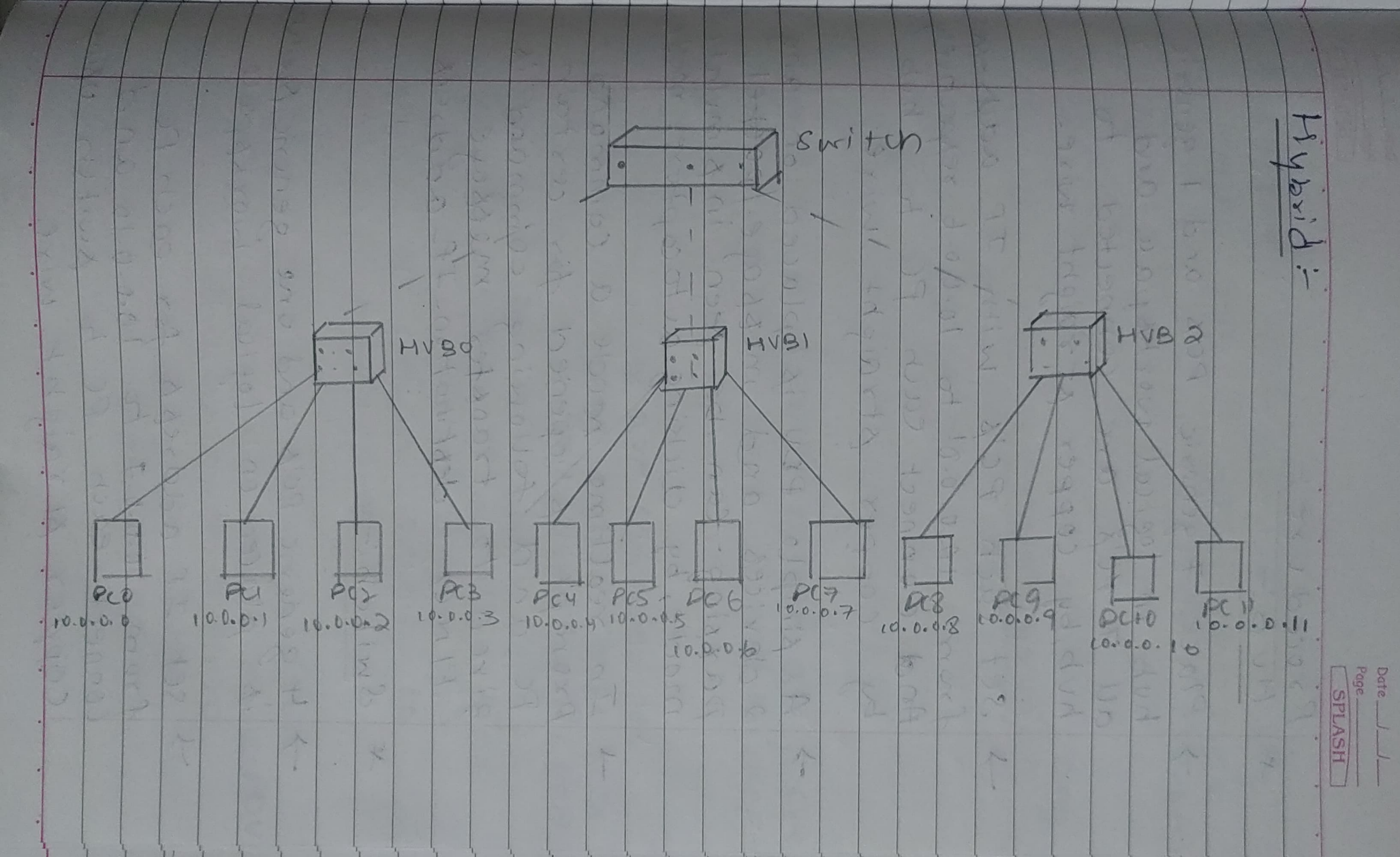
Hub:-



Switch:-



Hybrid :-



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Procedure :-

* Hub :-

→ Place 7 generic PC's and 1 generic hub in logical workspace and all 7 PC's are connected to hub, by copper straight wire.

→ Set each PC's with IP address from 10.0.0.0 to 10.0.0.6 respectively. And connect each PC to hub by copper straight wire.

→ A simple PDU is placed on any 2 devices and message/packet passing can be seen in simulation mode, by clicking autocapture.

→ In realtime mode a command prompt is opened for certain PC and following command is given to transfer message
PING destination_IP_address

* Switch :-

→ 4 generic PC's and one generic switch is placed on logical workspace.

→ Set IP address for each PC from 10.0.0.7 to 10.0.0.10 and connect each PC to switch using copper straight wire.

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→ In simulation mode after placing simple PDU to any 2 PC's, click auto-capture and packet transfer can be seen.

→ In real-time mode click on any PC and open command prompt and type 'PING dest. IP' to send message.

* Hybrid :-

→ 12 PC's, 3-hubs, 1-switch all generic are placed onto logical workspace.

→ 3-generic hubs are connected to switch ~~via~~ using copper cross-over wire and 12 PC's are connected to 3 hubs, 4 PC each using copper straight wire after assigning IP address for each PC from 10.0.0.0 to 10.0.0.11 respectively.

→ After selecting 2 PC's from different hubs with simple-PDU and clicking on auto-capture, packets passing simulation can be seen in simulation mode.

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→ In real-time mode open command prompt by clicking any PC → devices → command prompt and type 'PING dest. IP_address' to send packet.

Observations:-

* Hub :-

Learning outcome :-

→ After source sends message to hub it's broadcasted to all end devices but only destination device reads and send response back to hub for source to get response.

→ Hub establishes connection to end-devices quickly and signals by green-light.

Result :-

PING 10.0.0.3

PINGING 10.0.0.3 with 32 bytes of data:

REPLY FROM 10.0.0.3 : bytes=32 time=0ms

:

PING STATISTICS FOR 10.0.0.3 :

"Details of how many packets sent and received."

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* Switch :-

learning observation :-

→ Unlike hub, switch does not give green signal immediately but takes some amount of time called learning time and the the packets can be sent once green signal is generated.

→ Initially switch also broadcasts for all end-devices and the next time the communication happens and message passing happens only between source and destination devices.

Result :-

PING 10.0.0.5

PINGING 10.0.0.5 with 32 bytes of data

⋮

PING STATISTICS FOR 10.0.0.3:

"Details of how many packets sent and received."

* Hybrid :-

learning outcome :-

→ Message sent by one PC of one hub to switch is sent to destination hub which broadcast to all devices of that hub and

only destined end-devices send back response to source of other hub.

Result :-

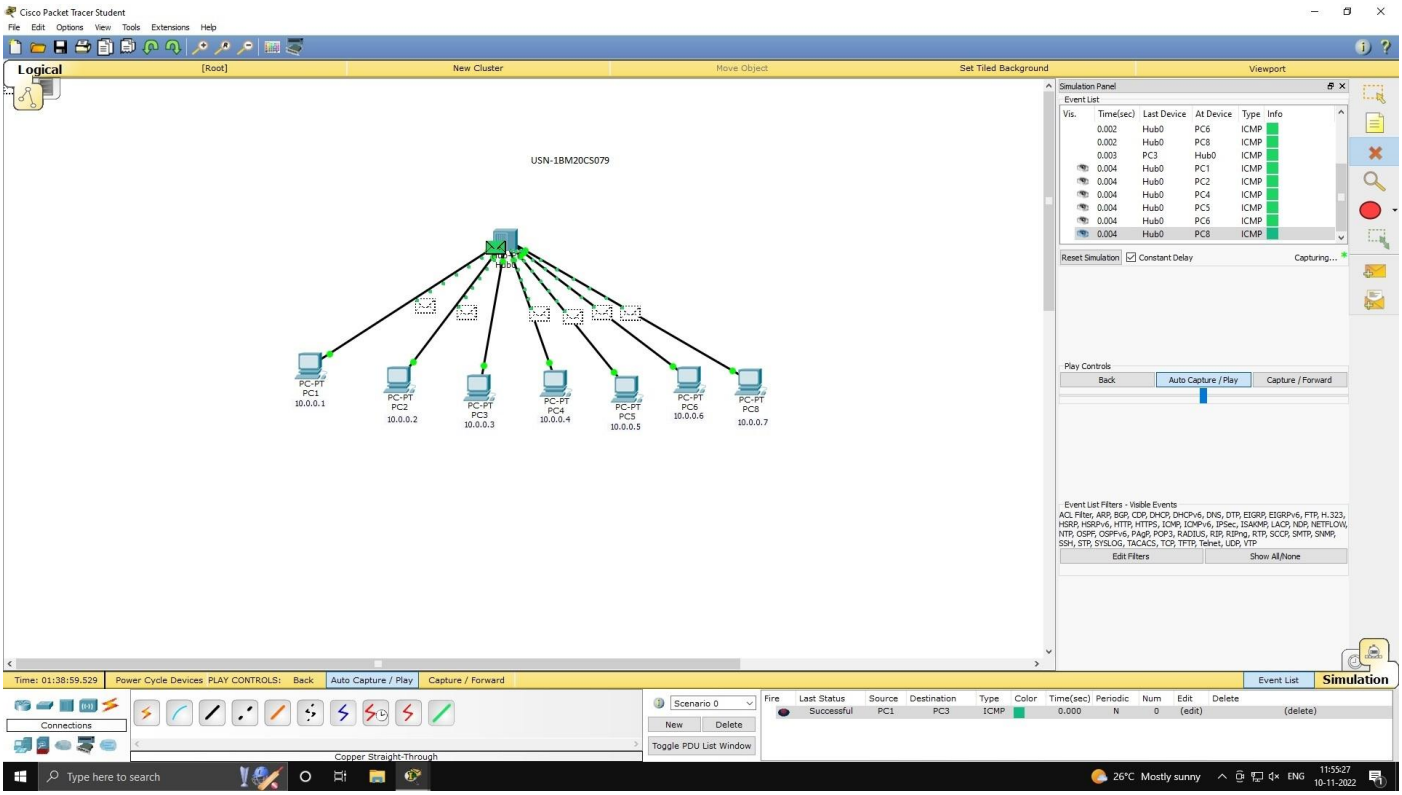
PING 10.0.0.4

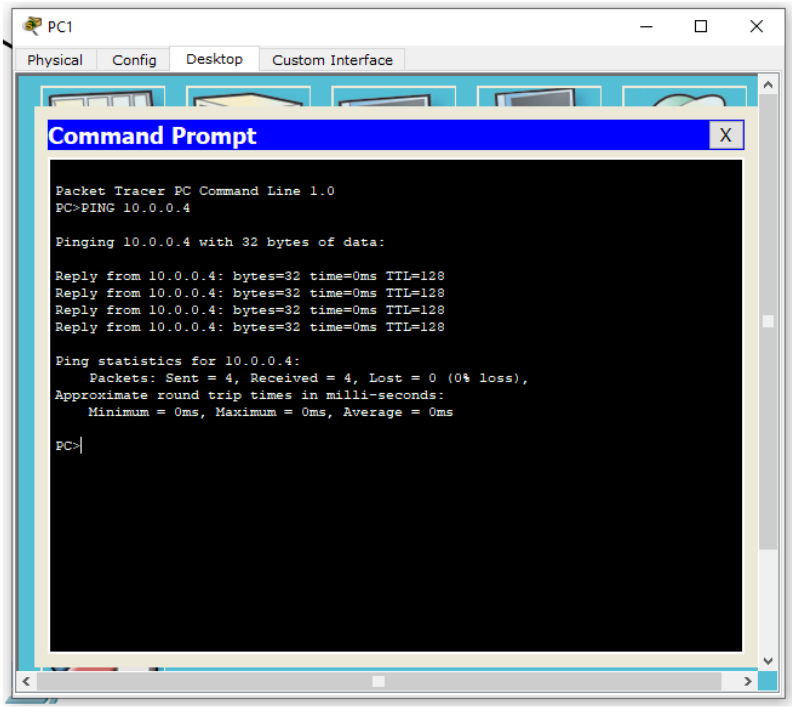
PINGING 10.0.0.4 with 32 bytes of data

REPLY from 10.0.0.4: bytes = 32

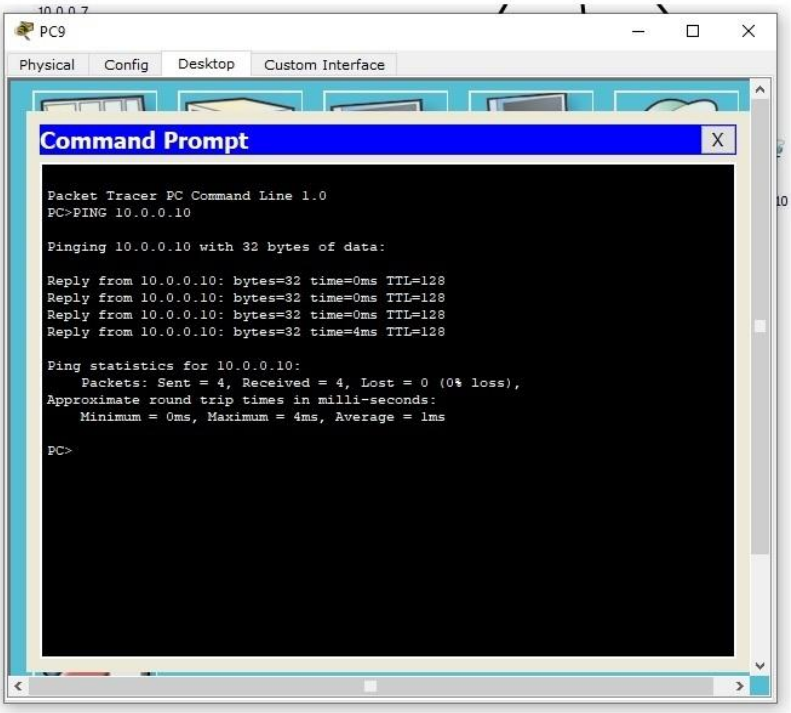
PING STATISTICS FOR 10.0.0.4:

"Details of number of packets sent and received".

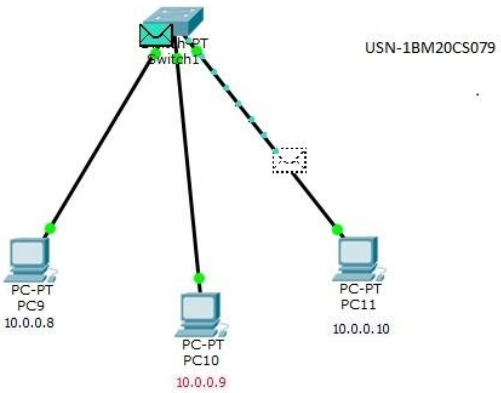

Cisco Packet Tracer Student
File Edit Options View Tools Extensions Help
Logical
[Root]
New Cluster
Move Object
Set Tiled Background
Viewport
USN-1BM20CS079
PC-PT PC1 10.0.0.1
PC-PT PC2 10.0.0.2
PC-PT PC3 10.0.0.3
PC-PT PC4 10.0.0.4
PC-PT PC5 10.0.0.5
PC-PT PC6 10.0.0.6
PC-PT PC8 10.0.0.7
Simulation Panel
Event List
Vis. Time(sec) Last Device At Device Type Info
0.002 Hub0 PC6 ICMP
0.002 Hub0 PC8 ICMP
0.003 PC3 Hub0 ICMP
0.004 Hub0 PC1 ICMP
0.004 Hub0 PC2 ICMP
0.004 Hub0 PC4 ICMP
0.004 Hub0 PC5 ICMP
0.004 Hub0 PC6 ICMP
0.004 Hub0 PC8 ICMP
Reset Simulation
Constant Delay
Capturing...
Play Controls
Back
Auto Capture / Play
Capture / Forward
Event List Filters - Visible Events
ACL Filter, ARP, BGP, CDP, DHCP, DHCPv6, DNS, DTP, EIGRP, EIGRPv6, FTP, H.323, HSRP, HSRPv6, HTTP, HTTPS, ICMP, ICMPv6, IPSec, ISAKMP, LACP, NDP, NETFLOW, NTP, OSPF, OSPFv6, PAgP, POP3, RADIUS, RIP, RIPng, RTP, SCCP, SMTP, SNMP, SSH, STP, SYSLOG, TACACS, TCP, TFTP, Telnet, UDP, VTP
Edit Filters
Show All/None
Time: 01:38:59.529
Power Cycle Devices PLAY CONTROLS: Back Auto Capture / Play Capture / Forward
Event List
Simulation
Connections
Copper Straight-Through
Scenario 0
New
Delete
Toggle PDU List Window
Fire Last Status Source Destination Type Color Time(sec) Periodic Num Edit Delete
Successful PC1 PC3 ICMP 0.000 N 0 (edit) (delete)
Type here to search
26°C Mostly sunny
ENG
11:55:27
10-11-2022

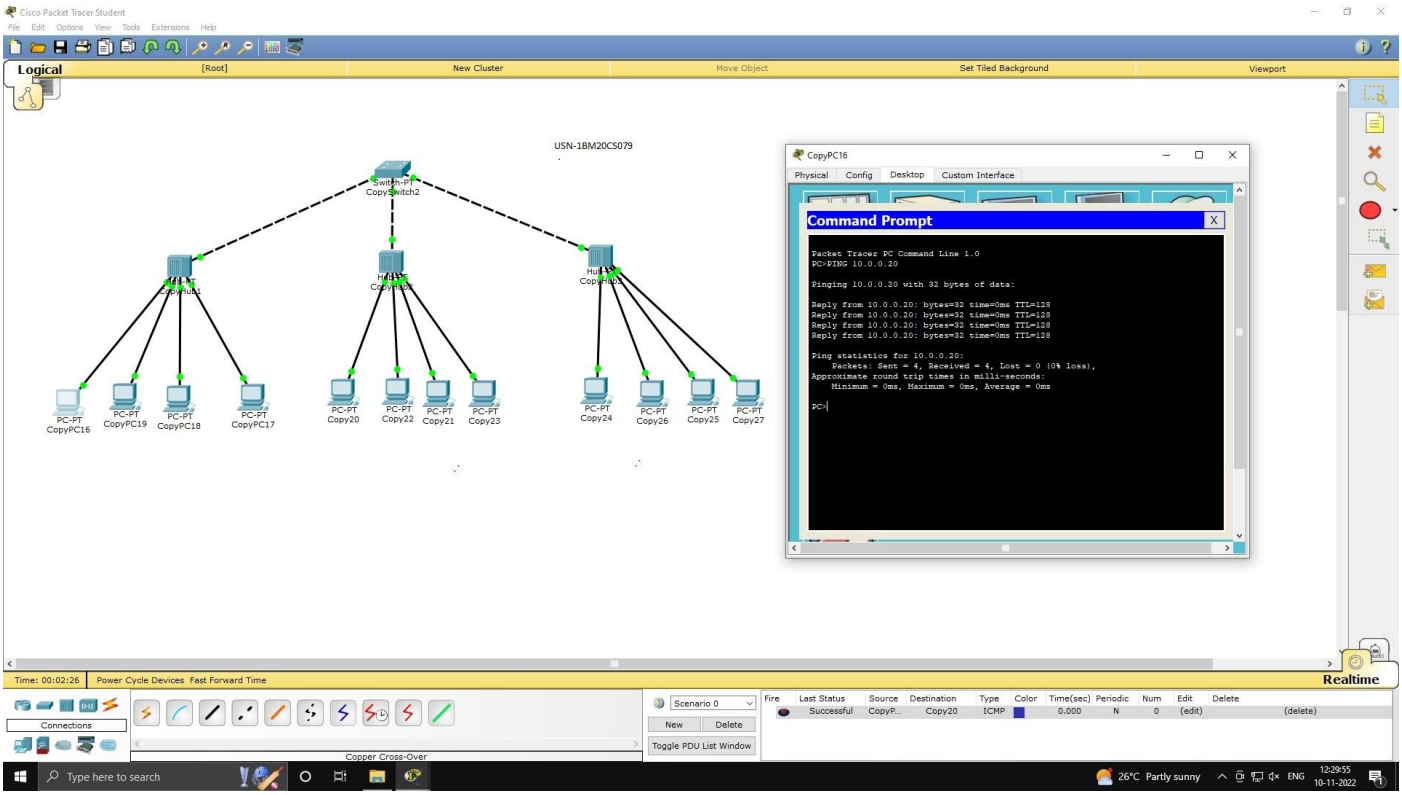


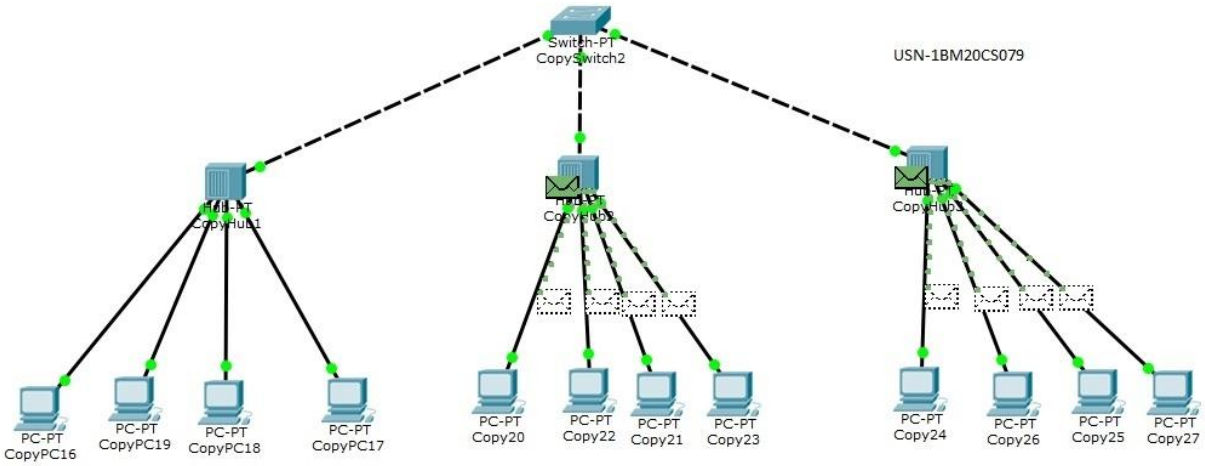
USN-1BM20CS079



USN-1BM20CS079


USN-1BM20CS079
PC-PT
PC9
10.0.0.8
PC-PT
PC10
10.0.0.9
PC-PT
PC11
10.0.0.10


Cisco Packet Tracer Student
Logical
[Root]
New Cluster
Move Object
Set Tiled Background
Viewport
USN-1BM20CS079
Switch-PT
CopySwitch2
PC-PT
CopyPC16
PC-PT
CopyPC19
PC-PT
CopyPC18
PC-PT
CopyPC17
PC-PT
Copy20
PC-PT
Copy22
PC-PT
Copy21
PC-PT
Copy23
PC-PT
Copy24
PC-PT
Copy26
PC-PT
Copy25
PC-PT
Copy27
CopyPC16
Physical
Config
Desktop
Custom Interface
Command Prompt
Packet Tracer PC Command Line 1.0
PC>PING 10.0.0.20
Pinging 10.0.0.20 with 32 bytes of data:
Reply from 10.0.0.20: bytes=32 time=0ms TTL=128
Reply from 10.0.0.20: bytes=32 time=0ms TTL=128
Reply from 10.0.0.20: bytes=32 time=0ms TTL=128
Reply from 10.0.0.20: bytes=32 time=0ms TTL=128
Ping statistics for 10.0.0.20:
Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
Minimum = 0ms, Maximum = 0ms, Average = 0ms
PC>
Time: 00:02:26
Power Cycle Devices
Fast Forward Time
Realtime
Connections
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
CopyP...
Copy20
ICMP
0.000
N
0
(edit)
(delete)
Type here to search
26°C Partly sunny
ENG
12:29:55
10-11-2022


Switch-PT
CopySwitch2
USN-1BM20CS079
Hub-PT
CopyHub1
Hub-PT
CopyHub2
Hub-PT
CopyHub3
PC-PT
CopyPC16
PC-PT
CopyPC19
PC-PT
CopyPC18
PC-PT
CopyPC17
PC-PT
Copy20
PC-PT
Copy22
PC-PT
Copy21
PC-PT
Copy23
PC-PT
Copy24
PC-PT
Copy26
PC-PT
Copy25
PC-PT
Copy27

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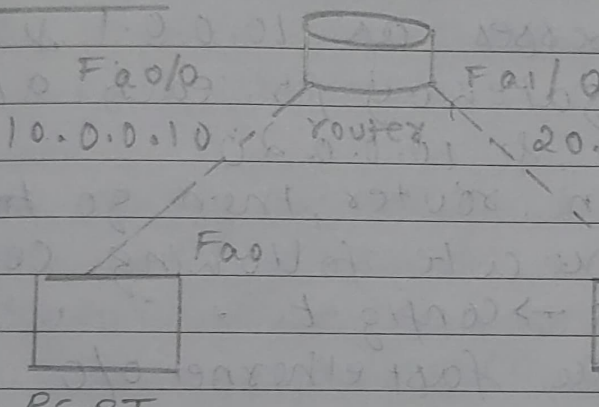
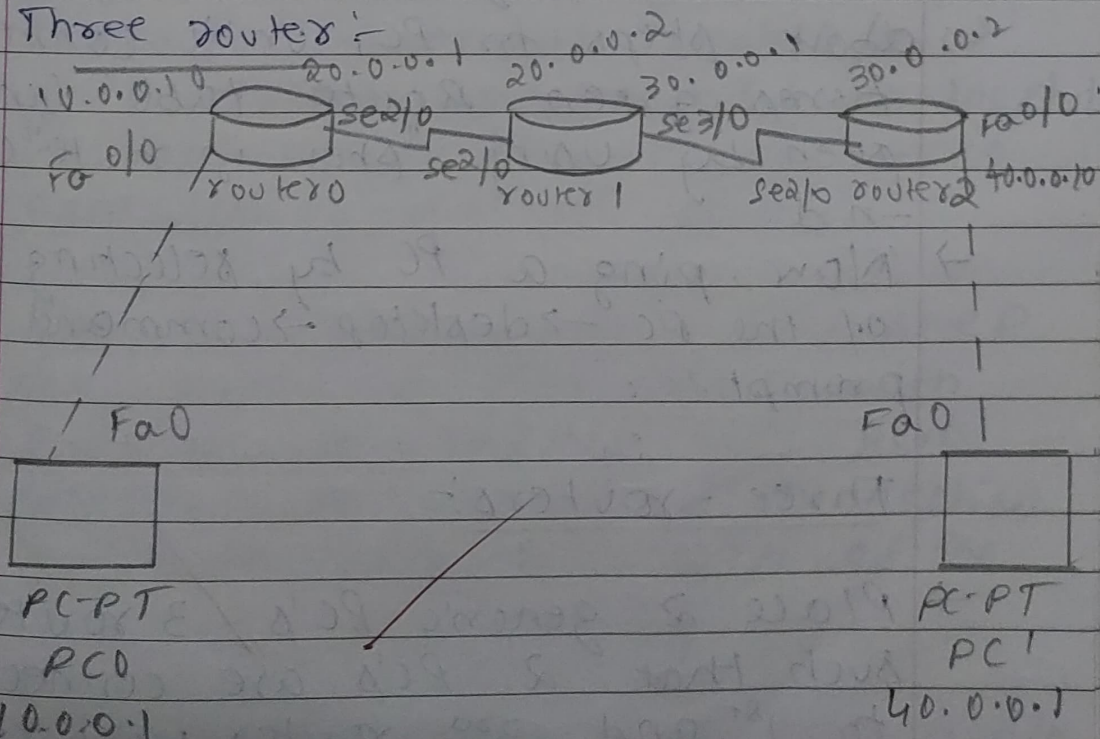
Aim:- Configuring IP address to routers in packet tracer Explore the following messages: Ping responses, destination unreachable, request timed out, reply.

Topology:-

One-router:-



Three router:-



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Procedure:

One-router:

→ Place 2 generic PC, a generic router and notep with IP addresses and connect using copper cross wire.

→ Click on both PC's and set IP addresses as 10.0.0.1 & 10.0.0.2 with gateway for each as 10.0.0.10 & 10.0.0.20

→ Click on router, then go to CLI and execute following commands
→enable → config t
→interface fastethernet 0/0
→ip address 10.0.0.10 255.0.0.0
→no shut

now connection between PC0 & router turns green and repeat above steps for PC1 until connection turns green. Route table can be seen by using "show ip route" command.

→ Now ping a PC by selecting one of the PC → desktop → command prompt.

Three-routers:

→ Place 2 generic PC's, 3 routers such that 2 PC's are connected to 1st and 3rd router using copper

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Create and 3 routers are connected with sequence 1st ↔ 2nd ↔ 3rd using serial DCE cable

→ Place notes to indicate IP addresses and ports of fastethernet & serial ports.

→ Set IP address, gateway, subnet mask for both the PC's.

→ Now configure router 1 :-
→ click → cli → enable → config t
→ interface fastethernet 0/0
→ ip address 10.0.0.10 255.0.0.0
→ no shut
by this first PC and left half of router connection is establ-ished.
→ config t → interface serial 2/0 → ip address 20.0.0.1 255.0.0.0 → no shu
now right side connection is established for 1st router.

→ Do the same above done step for router 2 and three with correct IP address and port selection to establish connection on both sides of each of the routers successfully

→ After all connections, green lights

are shown as a result of successfull completion, now if we ping we get "destination unreachable"

→ If we ping to other routers, we get "request timed out" as routers are not trained for indirect connected LAN's

→ Train router 1 by :-
ip route 30.0.0.0 255.0.0.0 20.0.0.2
ip route 40.0.0.0 255.0.0.0 20.0.0.2

→ Train router 2 by :-
ip route 10.0.0.0 255.0.0.0 20.0.0.1
ip route 40.0.0.0 255.0.0.0 30.0.0.2

→ Train router 3 by :-
ip route 10.0.0.0 255.0.0.0 30.0.0.1
ip route 20.0.0.0 255.0.0.0 30.0.0.1

→ Now pinging from PC0 to PC1 is successfull.

Observations :-

One-router :-
Pinging output for first time

ping 20.0.0.1

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pinging 20.0.0.1 with 32 bytes of data:
request timed out
Reply from 20.0.0.1: bytes = 32
Reply from 20.0.0.1 : bytes = 32
Reply from 20.0.0.1 : bytes = 32

ping statistics for 20.0.0.1:
packets sent = 4, received = 3, lost = 1

But when PC0 pings PC1 again or if reverse ping happens, we get reply all 4 times

3 routers:-

* Output when PC0 is pinged by PC1 or vice versa before routers are trained of unknown IP's.

ping 40.0.0.1

pinging 40.0.0.1 with 32 bytes of data

reply from 10.0.0.10: destination host unreachable
reply from 10.0.0.10: destination host unreachable
reply from 10.0.0.10: destination host unreachable
reply from 10.0.0.10: destination host unreachable

pinging statistics 40.0.0.1
packets sent = 4 received = 0 lost = 4

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ping 20.0.0.2

request timed out
request timed out
request timed out
request timed out.

pinging statistics 20.0.0.2
packets sent = 4, received = 0, lost = 40

→ once routes are trained.

ping 40.0.0.1

pinging 40.0.0.1 with 32 bytes of data

request timed out
reply from 40.0.0.1 : bytes = 32 time = 2ms
reply from 40.0.0.1 : bytes = 32 time = 2ms
reply from 40.0.0.1 : bytes = 32 time = 2ms

pinging statistics for 40.0.0.1
packets : sent = 4, received = 3, loss = 1

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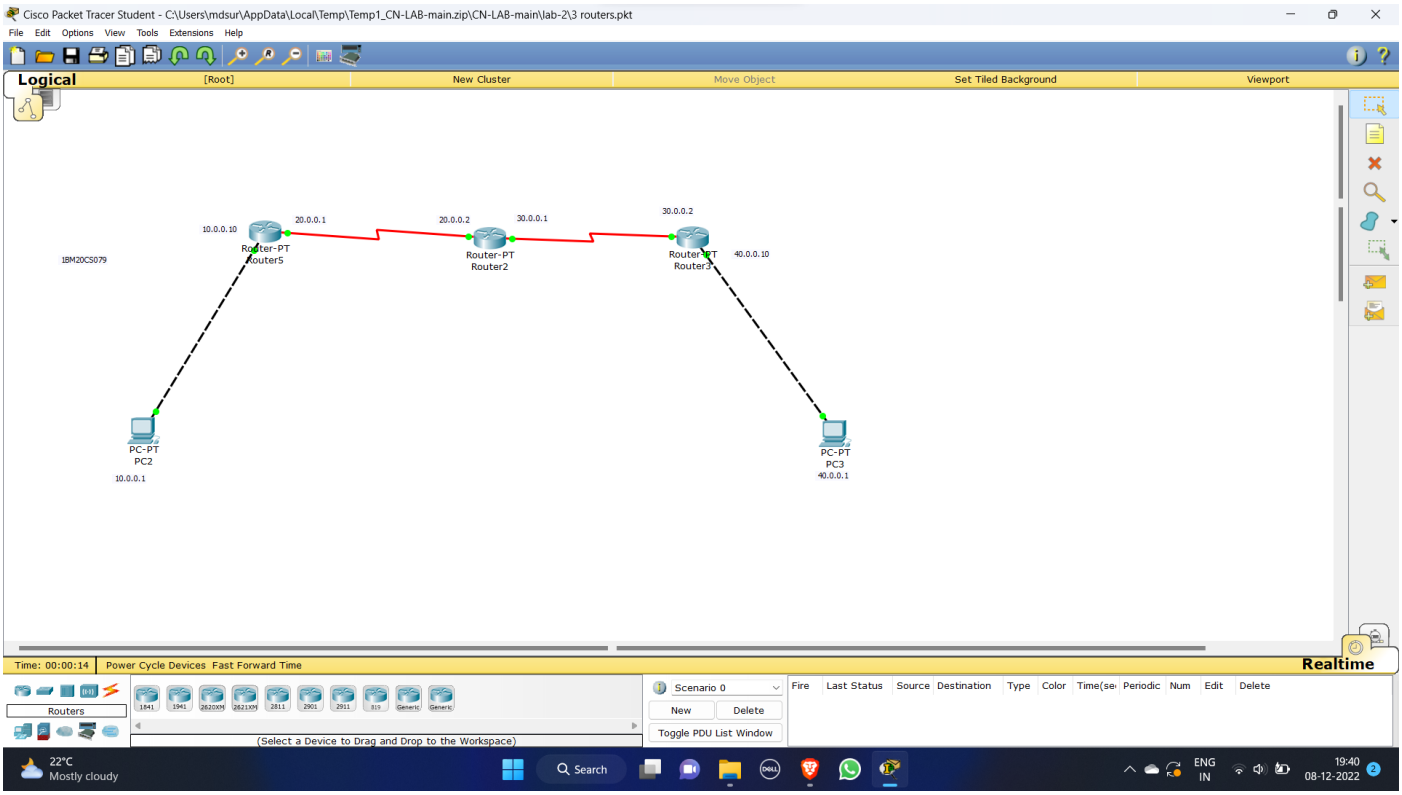
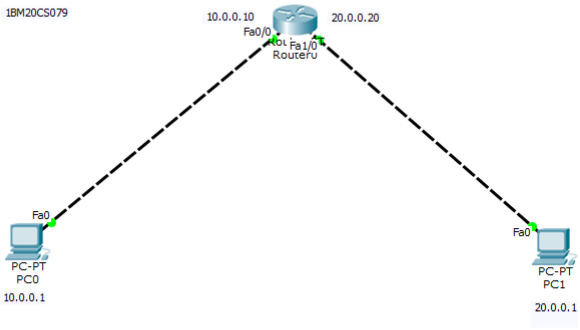
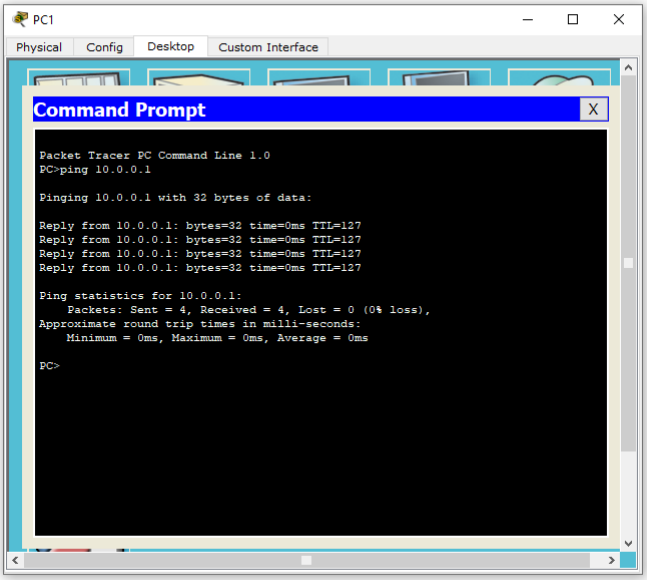
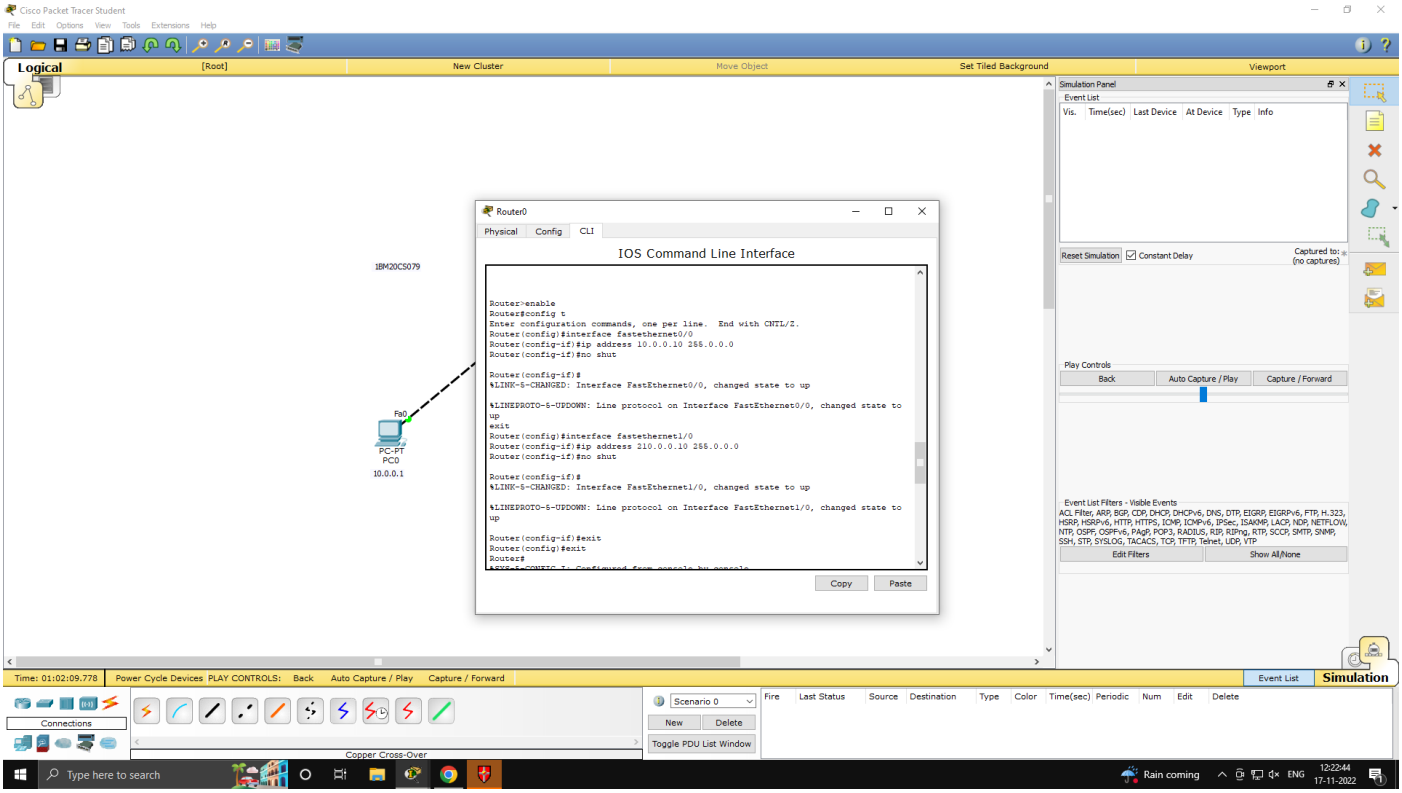

Cisco Packet Tracer Student - C:\Users\mdsur\AppData\Local\Temp\Temp1_CN-LAB-main.zip\CN-LAB-main\lab-2\3 routers.pkt
File Edit Options View Tools Extensions Help
Logical
[Root]
New Cluster
Move Object
Set Tiled Background
Viewport
1BM20CS079
10.0.0.10
20.0.0.1
20.0.0.2
30.0.0.1
30.0.0.2
40.0.0.10
Router-PT
Router5
Router-PT
Router2
Router-PT
Router3
PC-PT
PC2
10.0.0.1
PC-PT
PC3
40.0.0.1
Time: 00:00:14
Power Cycle Devices Fast Forward Time
Realtime
Routers
(Select a Device to Drag and Drop to the Workspace)
Scenario 0
New
Delete
Toggle PDU List Window
Fire
Last Status
Source
Destination
Type
Color
Periodic
Num
Edit
Delete
22°C
Mostly cloudy
Search
ENG
IN
19:40
08-12-2022


1BM20CS079
10.0.0.10
Fa0/0
Fa1/0
Router0
20.0.0.20
Fa0
PC-PT
PC0
10.0.0.1
Fa0
PC-PT
PC1
20.0.0.1


PC1
Physical
Config
Desktop
Custom Interface
Command Prompt
X
Packet Tracer PC Command Line 1.0
PC>ping 10.0.0.1
Pinging 10.0.0.1 with 32 bytes of data:
Reply from 10.0.0.1: bytes=32 time=0ms TTL=127
Reply from 10.0.0.1: bytes=32 time=0ms TTL=127
Reply from 10.0.0.1: bytes=32 time=0ms TTL=127
Reply from 10.0.0.1: bytes=32 time=0ms TTL=127
Ping statistics for 10.0.0.1:
Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
Minimum = 0ms, Maximum = 0ms, Average = 0ms
PC>


Cisco Packet Tracer Student
Logical
[Root]
New Cluster
Move Object
Set Tiled Background
Viewport
Router0
Physical
Config
CLI
IOS Command Line Interface
1BM20CS079
Router>enable
Router#config t
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#interface fastethernet0/0
Router(config-if)#ip address 10.0.0.10 255.0.0.0
Router(config-if)#no shut
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)#interface fastethernet1/0
Router(config-if)#ip address 210.0.0.10 255.0.0.0
Router(config-if)#no shut
Router(config-if)#
%LINK-5-CHANGED: Interface FastEthernet1/0, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet1/0, changed state to up
Router(config-if)#exit
Router(config)#exit
Router#
Copy
Paste
Fa0
PC-PT
PC0
10.0.0.1
Simulation Panel
Event List
Vis.
Time(sec)
Last Device
At Device
Type
Info
Reset Simulation
Constant Delay
Captured to:
(no captures)
Play Controls
Back
Auto Capture / Play
Capture / Forward
Event List Filters - Visible Events
Edit Filters
Show All/None
Time: 01:02:09.778
Power Cycle Devices
PLAY CONTROLS:
Back
Auto Capture / Play
Capture / Forward
Event List
Simulation
Connections
Copper Cross-Over
Scenario 0
New
Delete
Toggle PDU List Window
Fire
Last Status
Source
Destination
Type
Color
Time(sec)
Periodic
Num
Edit
Delete
Type here to search
Rain coming
ENG
12:22:44
17-11-2022

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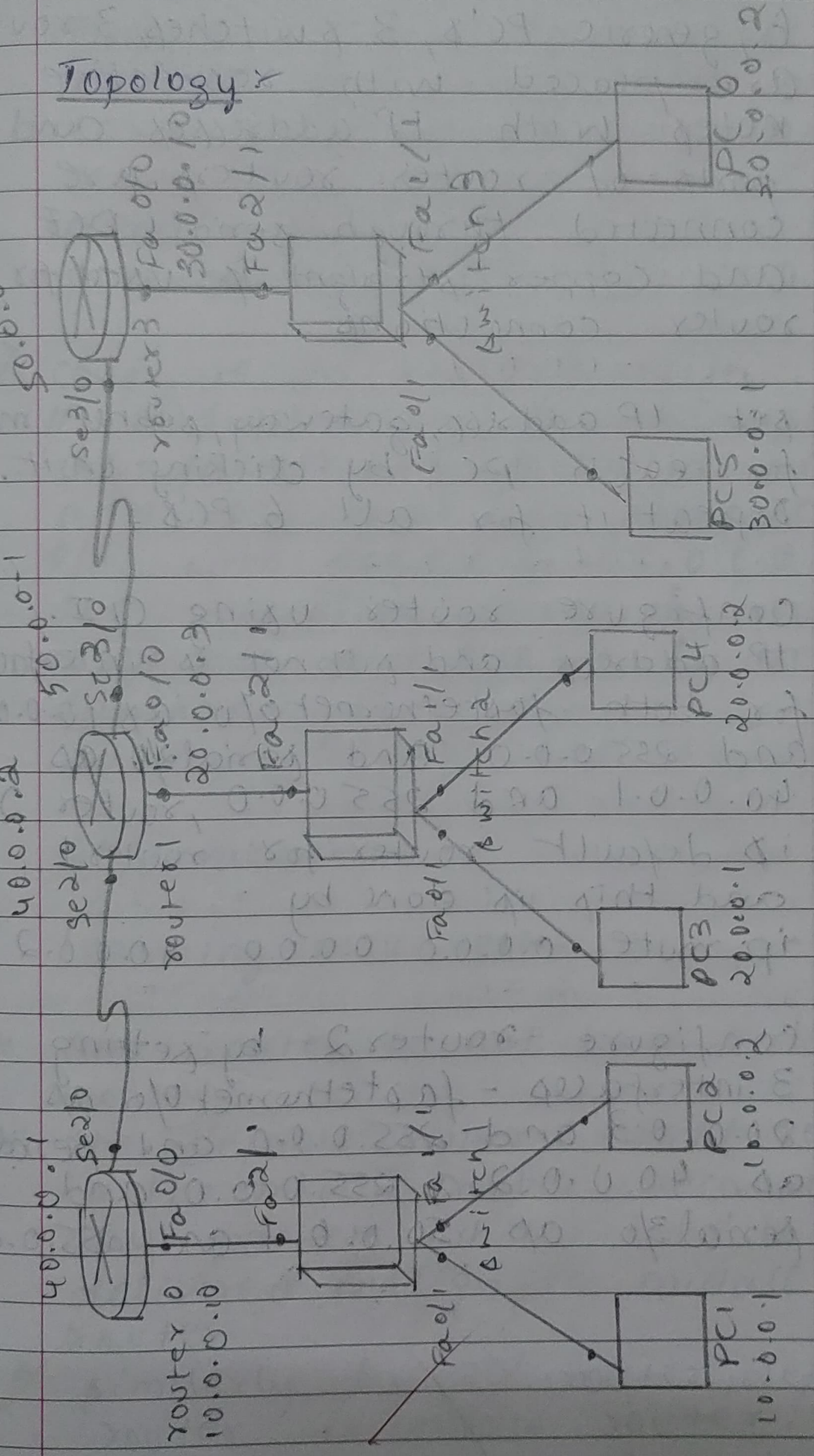
Aim:- configuring default route to router

Topology:-



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Procedure:

→ 6, generic PC's, 3 switches, 3 routers are placed with respective notes with IP addresses and ports of routers. routers are connected through serial DCE and copper straight ip used for router connections.

→ set IP address, gateway, subnet mask for each PC by clicking on it. Repeat it for all 6 PC's.

→ configure router using CLI. IP address and subnet is interfaced for both fastethernet0/0 as 10.0.0.1 and 255.0.0.0 and serial2/0 as 40.0.0.1 and 255.0.0.0, router 2 ip default router for router1 and this ip done by
ip route 0.0.0.0 0.0.0.0 40.0.0.2

→ configure router2 by setting 3 interfaces - fastethernet0/0 as 20.0.0.3 and 255.0.0.0 and serial2/ as 40.0.0.2 & 255.0.0.0 and serial3/0 as 50.0.0.1 and 255.0.0.

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router 2 does not have any default routers and static routing is done for the network 10 and 40 by the following command,

ip route 10.0.0.0 255.0.0.0 40.0.0.1
ip route 30.0.0.0 255.0.0.0 50.0.0.2

→ configure for router 3 with IP addresses and subnet mask as - fastethernet 0/0 with 30.0.0.10 and 255.0.0.0 and serial serial 2/0 with 50.0.0.2 & 255.0.0.0. the default router for router 3, router 2 and this set by the command

ip route 0.0.0.0 0.0.0.0 50.0.0.1

Observation:-

Learning outcomes:-

* One router cannot have 2 default routes.
* the default router for first router is the middle router because any packets which have to be delivered will go to middle router.
* similarly for 3rd router, default router is middle router.
* No default routes for middle

router because if one of the router is made default then there is a chance, that the packets which are to be sent to the switch are sent to the router.

Result :-

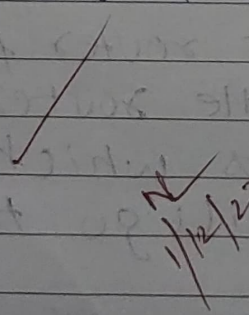
ping 20.0.0.1

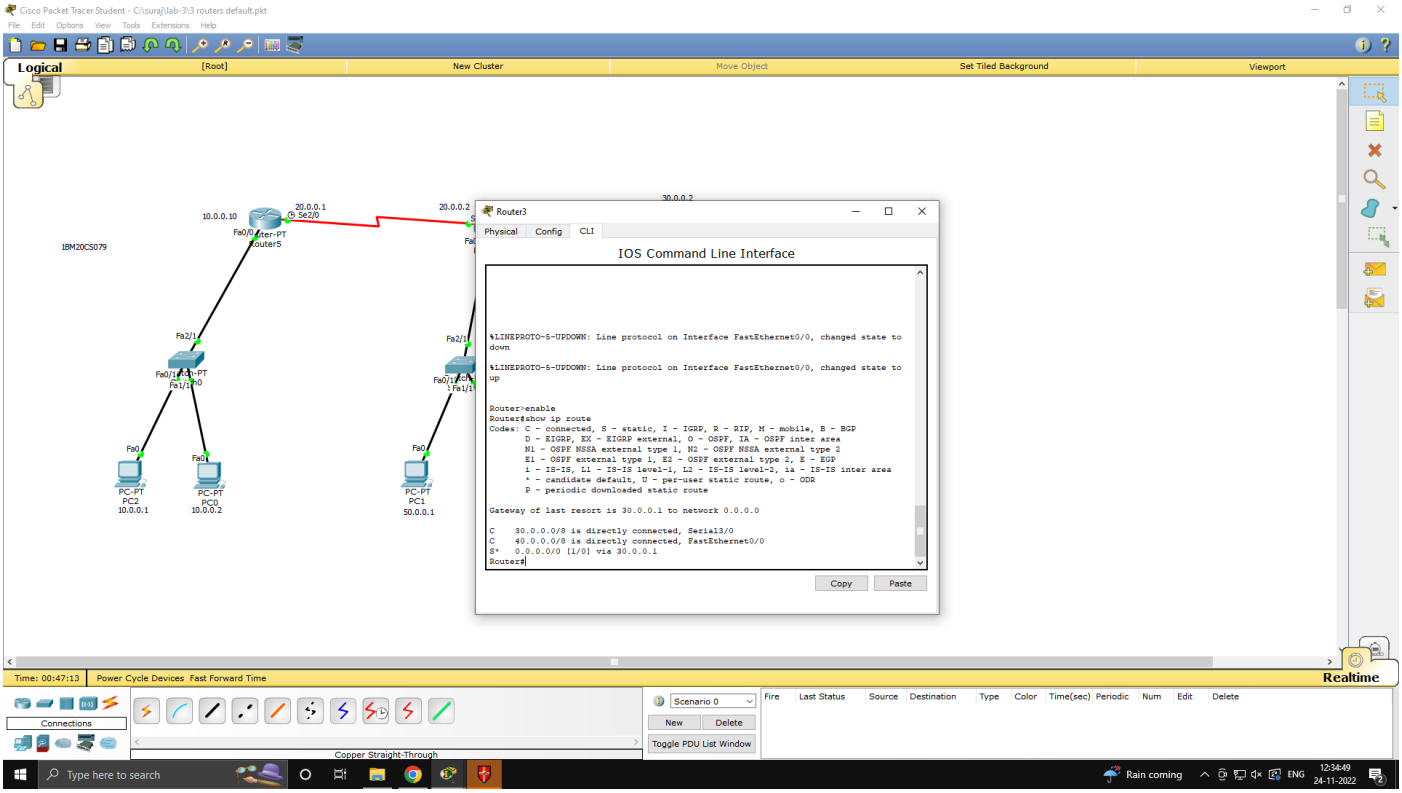
pinging 20.0.0.1 with 32 bytes of data

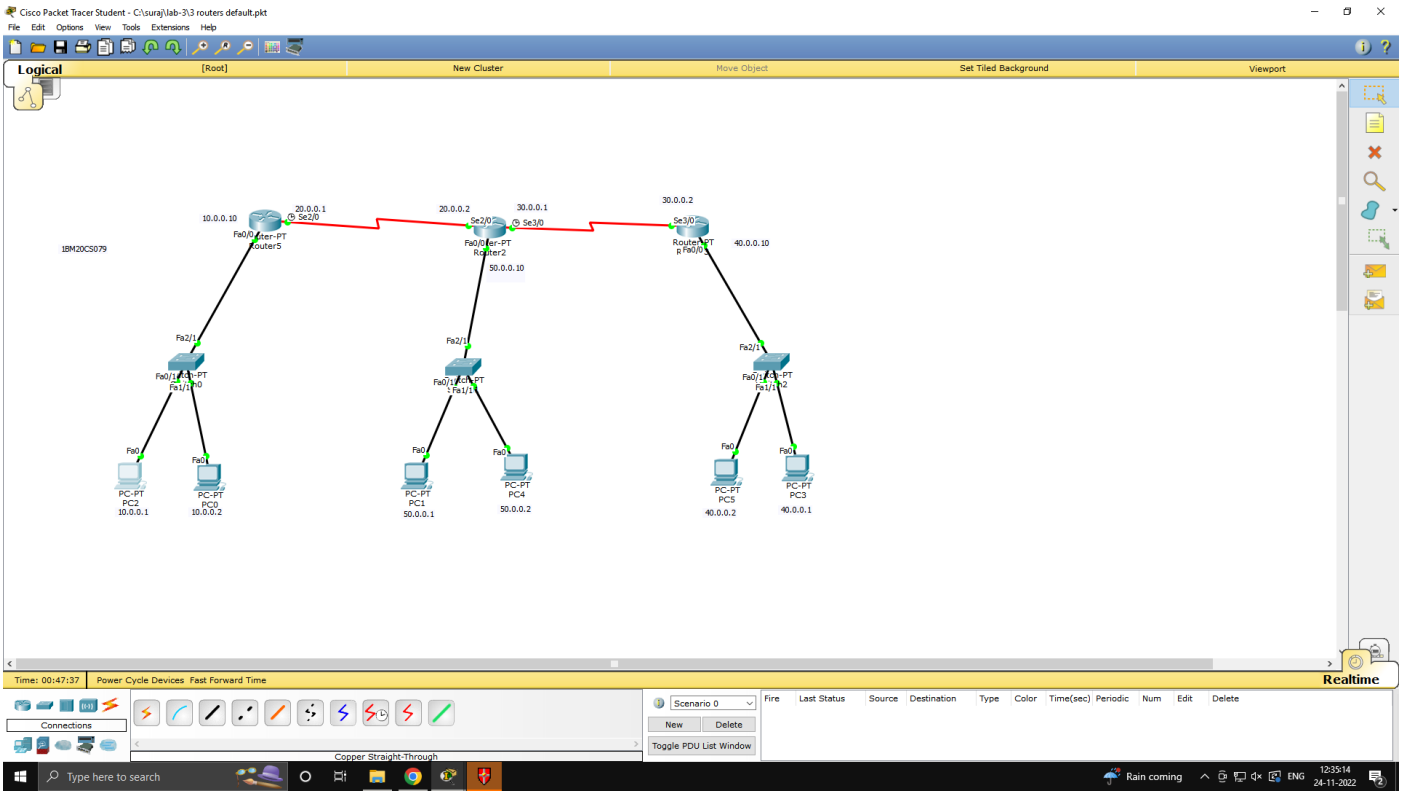
request timed out.
reply from 20.0.0.1 : bytes=32, time=1ms,
reply from 20.0.0.1 : bytes=32, time=2ms,
reply from 20.0.0.1 : bytes=32, time=6ms,

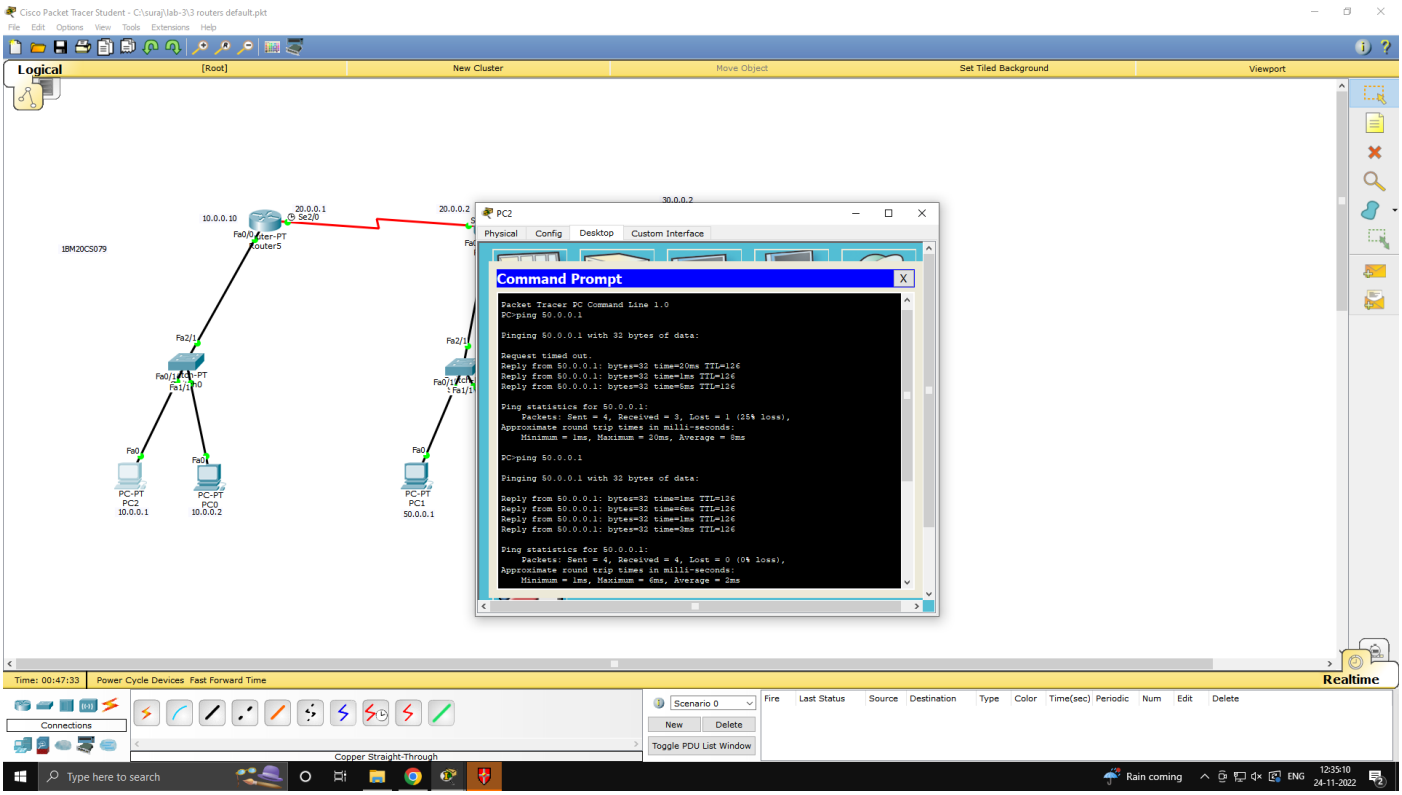
ping 30.0.0.2

pinging 30.0.0.2 with 32 bytes of data
request timed out.
reply from 30.0.0.2 : bytes=32, time=4ms,
reply from 30.0.0.2 : bytes=32, time=4ms,
reply from 30.0.0.2 : bytes=32, time=4ms,




Cisco Packet Tracer Student - C:\suraj\lab-3\3 routers default.pkt
File Edit Options View Tools Extensions Help
Logical
[Root]
New Cluster
Move Object
Set Tiled Background
Viewport
1BM20CS079
10.0.0.10
20.0.0.1
Se2/0
Fa0/0
Router5
20.0.0.2
30.0.0.2
Fa2/1
Fa0/1
Fa1/1
Fa0
PC-PT
PC2
10.0.0.1
PC-PT
PC3
10.0.0.2
PC-PT
PC1
50.0.0.1
Router3
Physical
Config
CLI
IOS Command Line Interface
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0, changed state to down
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0, changed state to up
Router>enable
Router#show ip route
Codes: C - connected, S - static, I - IGRP, R - RIP, M - mobile, B - BGP
D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area
N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2
E1 - OSPF external type 1, E2 - OSPF external type 2, E - EGP
i - IS-IS, L1 - IS-IS level-1, L2 - IS-IS level-2, ia - IS-IS inter area
* - candidate default, U - per-user static route, o - ODR
P - periodic downloaded static route
Gateway of last resort is 30.0.0.1 to network 0.0.0.0
C 30.0.0.0/8 is directly connected, Serial3/0
C 40.0.0.0/8 is directly connected, FastEthernet0/0
S* 0.0.0.0/0 [1/0] via 30.0.0.1
Router#
Copy
Paste
Time: 00:47:13
Power Cycle Devices Fast Forward Time
Realtime
Connections
Copper Straight-Through
Scenario 0
New
Delete
Toggle PDU List Window
Fire
Last Status
Source
Destination
Type
Color
Time(sec)
Periodic
Num
Edit
Delete
Type here to search
Rain coming
ENG
12:34:49
24-11-2022


Cisco Packet Tracer Student - C:\suraj\lab-3\3 routers default.pkt
File Edit Options View Tools Extensions Help
Logical
[Root]
New Cluster
Move Object
Set Tiled Background
Viewport
1BM20CS079
10.0.0.10
20.0.0.1
Se2/0
Fa0/0
Router5
20.0.0.2
30.0.0.1
Se2/0
Se3/0
Fa0/0
Router2
30.0.0.2
Se3/0
Fa0/0
40.0.0.10
50.0.0.10
Fa2/1
Fa0/1
Fa1/1
Fa0
PC-PT
PC2
10.0.0.1
PC-PT
PC0
10.0.0.2
PC-PT
PC1
50.0.0.1
PC-PT
PC4
50.0.0.2
PC-PT
PC5
40.0.0.2
PC-PT
PC3
40.0.0.1
Time: 00:47:37
Power Cycle Devices Fast Forward Time
Realtime
Connections
Copper Straight-Through
Scenario 0
New
Delete
Toggle PDU List Window
Fire
Last Status
Source
Destination
Type
Color
Time(sec)
Periodic
Num
Edit
Delete
Type here to search
Rain coming
ENG
12:35:14
24-11-2022

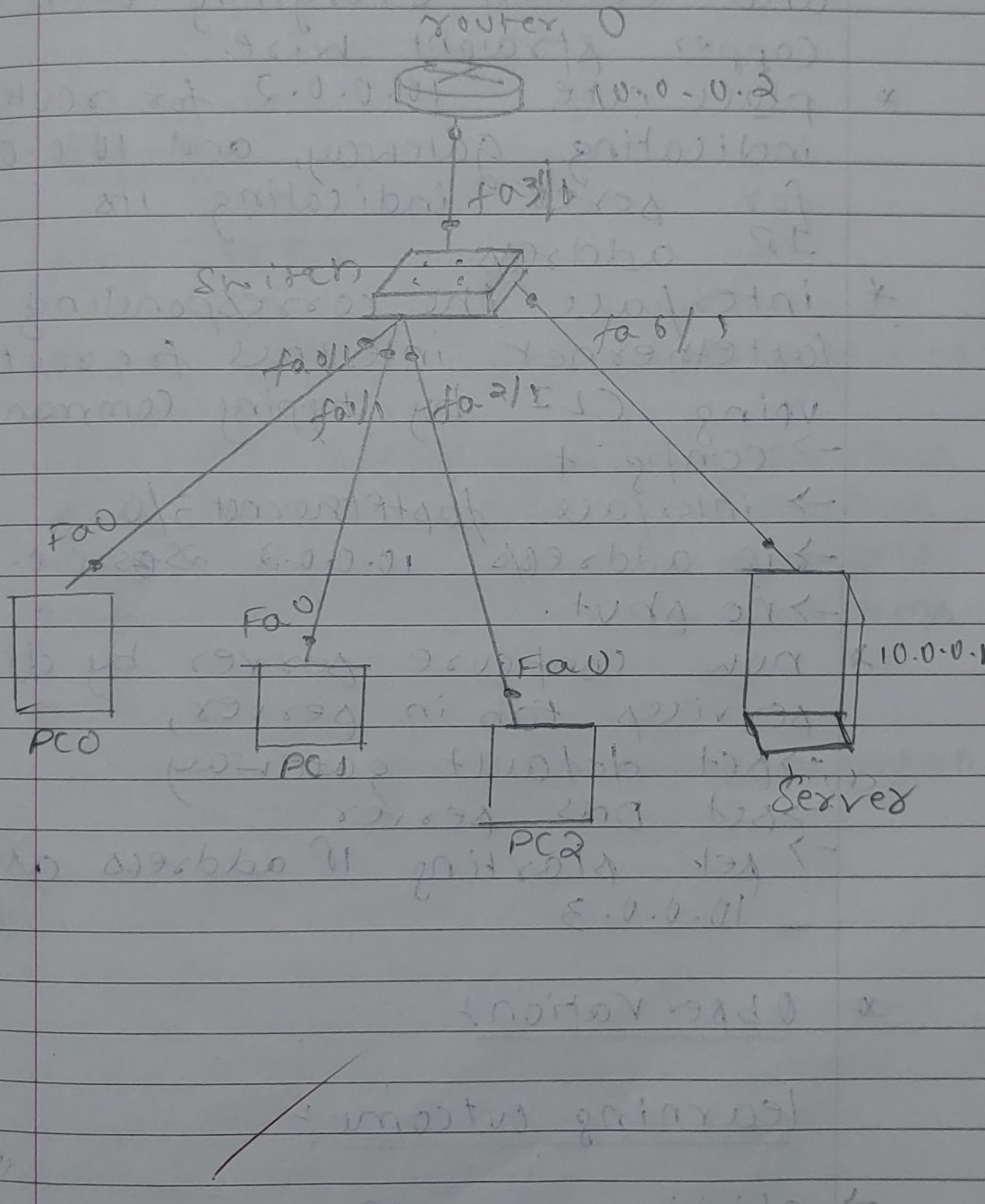

Cisco Packet Tracer Student - C:\suraj\lab-3\3 routers default.pkt
File Edit Options View Tools Extensions Help
Logical
[Root]
New Cluster
Move Object
Set Tiled Background
Viewport
1BM20CS079
10.0.0.10
20.0.0.1
Se2/0
Fa0/0
Router-PT
Router5
20.0.0.2
30.0.0.2
Fa2/1
Fa0/1
Fa1/1
PC-PT
PC2
10.0.0.1
PC-PT
PC3
10.0.0.2
PC-PT
PC1
50.0.0.1
PC2
Physical
Config
Desktop
Custom Interface
Command Prompt
Packet Tracer PC Command Line 1.0
PC>ping 50.0.0.1
Pinging 50.0.0.1 with 32 bytes of data:
Request timed out.
Reply from 50.0.0.1: bytes=32 time=20ms TTL=126
Reply from 50.0.0.1: bytes=32 time=1ms TTL=126
Reply from 50.0.0.1: bytes=32 time=5ms TTL=126
Ping statistics for 50.0.0.1:
Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),
Approximate round trip times in milli-seconds:
Minimum = 1ms, Maximum = 20ms, Average = 8ms
PC>ping 50.0.0.1
Pinging 50.0.0.1 with 32 bytes of data:
Reply from 50.0.0.1: bytes=32 time=1ms TTL=126
Reply from 50.0.0.1: bytes=32 time=6ms TTL=126
Reply from 50.0.0.1: bytes=32 time=1ms TTL=126
Reply from 50.0.0.1: bytes=32 time=3ms TTL=126
Ping statistics for 50.0.0.1:
Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
Minimum = 1ms, Maximum = 6ms, Average = 2ms
Time: 00:47:33
Power Cycle Devices Fast Forward Time
Realtime
Connections
Copper Straight-Through
Scenario 0
New
Delete
Toggle PDU List Window
Fire
Last Status
Source
Destination
Type
Color
Time(sec)
Periodic
Num
Edit
Delete
Type here to search
Rain coming
ENG
12:35:10
24-11-2022

1/12/22

Date / /
Page
SPLASH

Aim:- Configuring DHCP within a LAN in a packet tracer

Topology:-



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Procedure:-

* place 3 PC's, one router, one generic switch, one server and connect everything with copper straight wire.
* place note 10.0.0.2 for router indicating gateway, and 10.0.0.1 for server indicating its IP address.
* interface the corresponding fastethernet interface for router using CLI by typing commands
  → config t
  → interface fastethernet 3/0
  → ip address 10.0.0.2 255.0.0.0
  → no shut.
* now configure server by clicking services tab in server,
  → set default gateway
  → set DNS server
  → set starting IP address as 10.0.0.3

* **Observation:-**

learning outcome:-

→ clicking on IP configuration and selecting DHCP mode automatically fetches

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IP address, gateway from server for which we had configured already.

Result :-

ping 10.0.0.4

pinging 10.0.0.5 with 32 bytes of data

reply from 10.0.0.5: bytes = 32 time = 4ms
reply from 10.0.0.5: bytes = 32 time = 4ms
reply from 10.0.0.5: bytes = 32 time = 4ms
reply from 10.0.0.5: bytes = 32 time = 4ms

ping statistics for 10.0.0.5:
packets sent = 4, received = 4, lost = 0

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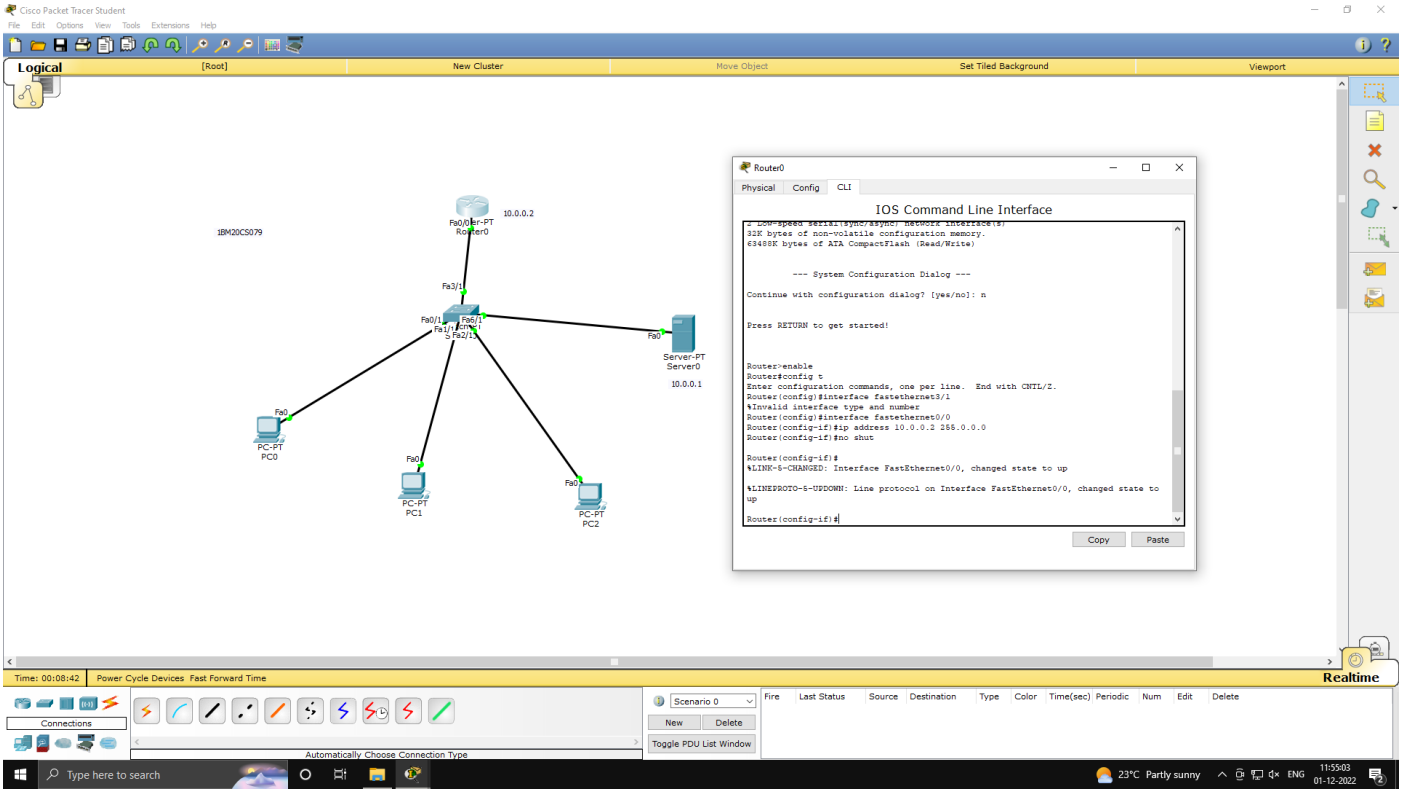
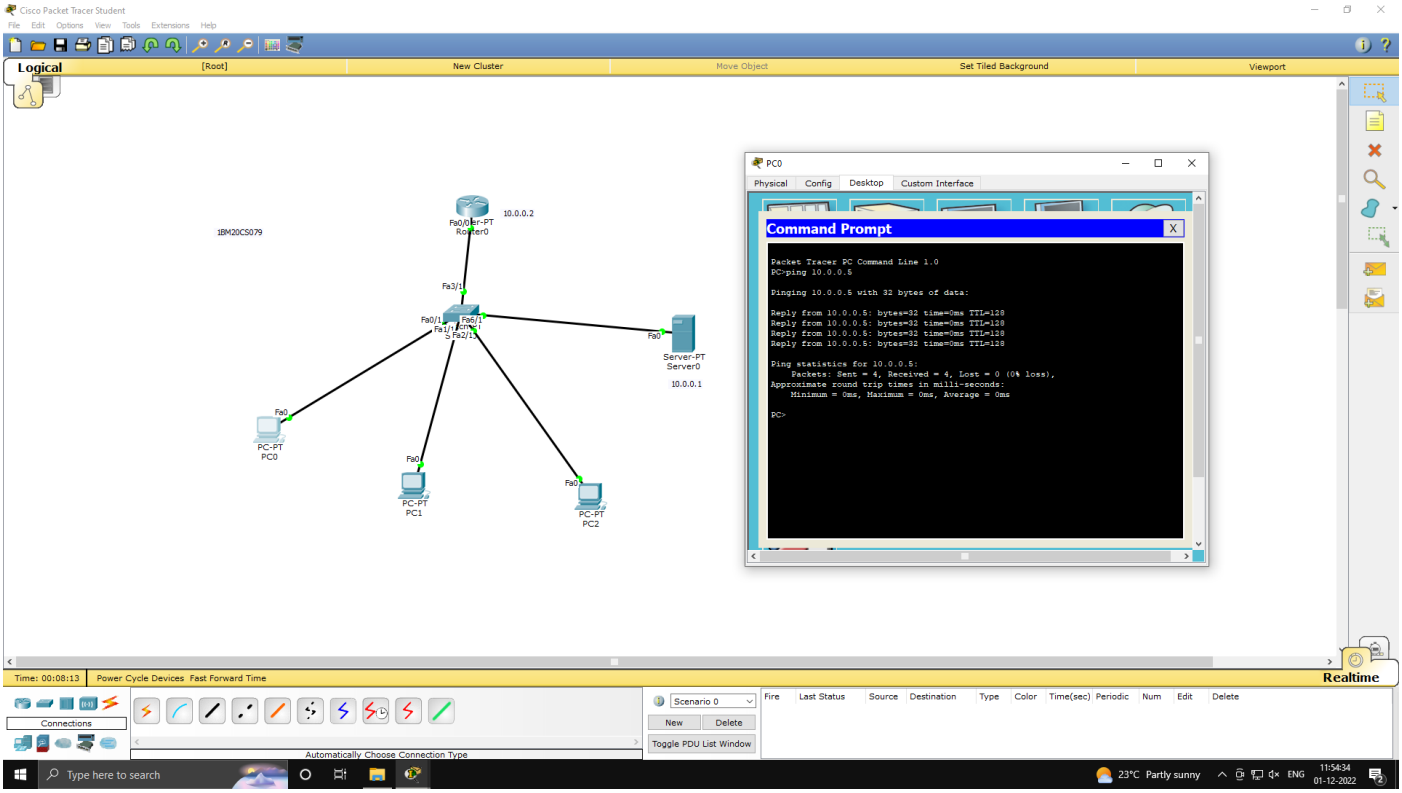
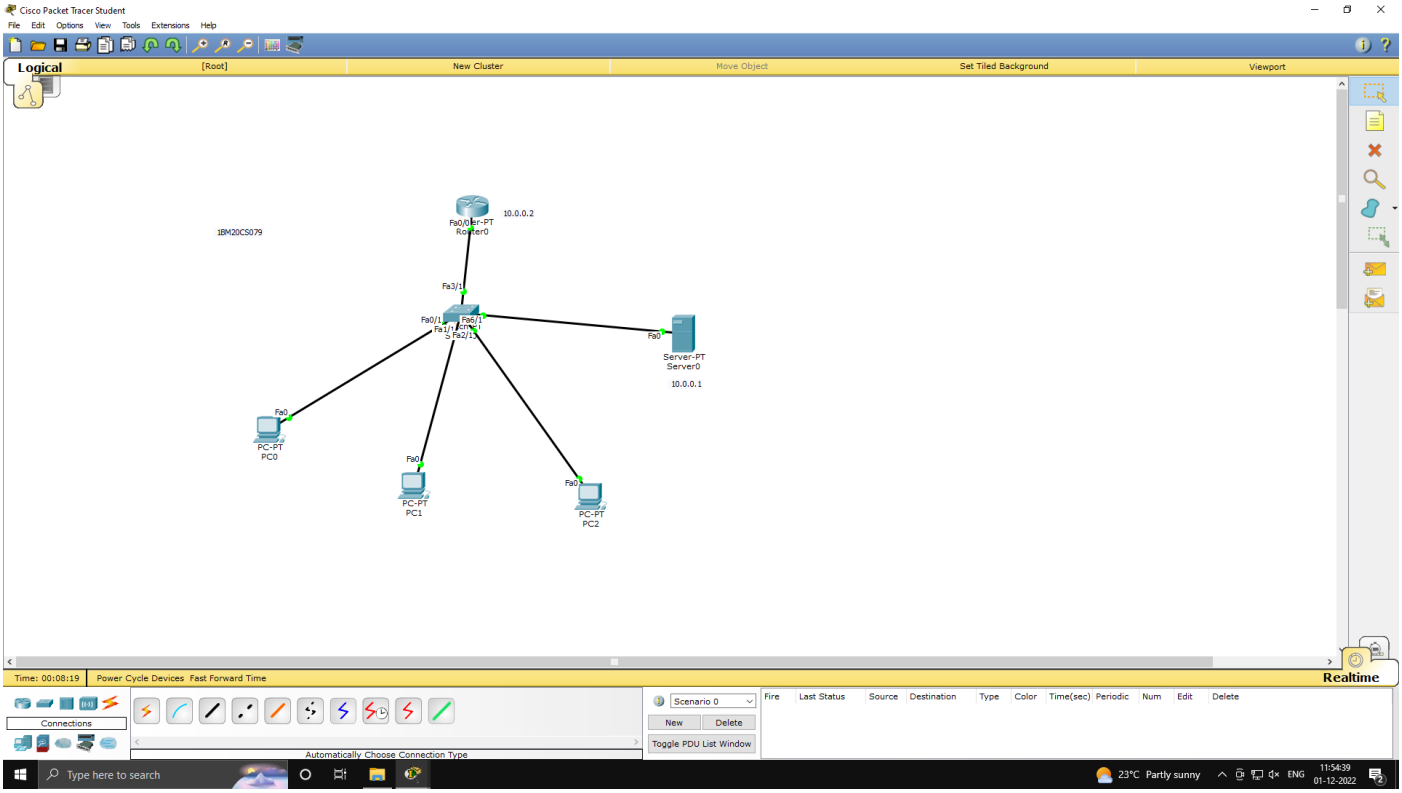

Cisco Packet Tracer Student
Logical
[Root]
New Cluster
Move Object
Set Tiled Background
Viewport
1BM20CS079
10.0.0.2
Router0
Server-PT
Server0
10.0.0.1
PC-PT
PC0
PC-PT
PC1
PC-PT
PC2
Router0
Physical
Config
CLI
IOS Command Line Interface
32K bytes of non-volatile configuration memory.
63488K bytes of ATA CompactFlash (Read/Write)
--- System Configuration Dialog ---
Continue with configuration dialog? [yes/no]: n
Press RETURN to get started!
Router>enable
Router#config t
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#interface fastethernet3/1
%Invalid interface type and number
Router(config)#interface fastethernet0/0
Router(config-if)#ip address 10.0.0.2 255.0.0.0
Router(config-if)#no shut
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)#
Copy
Paste
Time: 00:08:42
Power Cycle Devices
Fast Forward Time
Realtime
Connections
Automatically Choose Connection Type
Scenario 0
New
Delete
Toggle PDU List Window
Fire
Last Status
Source
Destination
Type
Color
Time(sec)
Periodic
Num
Edit
Delete
Type here to search
23°C Partly sunny
ENG
11:55:03
01-12-2022


Cisco Packet Tracer Student
Logical
[Root]
New Cluster
Move Object
Set Tiled Background
Viewport
1BM20CS079
10.0.0.2
Fa0/0
Router-PT
Router0
Fa3/1
Fa0/1
Fa1/1
Fa6/1
Fa2/1
Fa0
Server-PT
Server0
10.0.0.1
Fa0
PC-PT
PC0
Fa0
PC-PT
PC1
Fa0
PC-PT
PC2
PC0
Physical
Config
Desktop
Custom Interface
Command Prompt
Packet Tracer PC Command Line 1.0
PC>ping 10.0.0.5
Pinging 10.0.0.5 with 32 bytes of data:
Reply from 10.0.0.5: bytes=32 time=0ms TTL=128
Reply from 10.0.0.5: bytes=32 time=0ms TTL=128
Reply from 10.0.0.5: bytes=32 time=0ms TTL=128
Reply from 10.0.0.5: bytes=32 time=0ms TTL=128
Ping statistics for 10.0.0.5:
Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
Minimum = 0ms, Maximum = 0ms, Average = 0ms
PC>
Time: 00:08:13
Power Cycle Devices
Fast Forward Time
Realtime
Connections
Automatically Choose Connection Type
Scenario 0
New
Delete
Toggle PDU List Window
Fire
Last Status
Source
Destination
Type
Color
Time(sec)
Periodic
Num
Edit
Delete
Type here to search
23°C Partly sunny
ENG
11:54:34
01-12-2022


Cisco Packet Tracer Student
File Edit Options View Tools Extensions Help
Logical
[Root]
New Cluster
Move Object
Set Tiled Background
Viewport
1BM20CS079
10.0.0.2
Server-PT
Server0
10.0.0.1
PC-PT
PC0
PC-PT
PC1
PC-PT
PC2
Time: 00:08:19
Power Cycle Devices Fast Forward Time
Realtime
Connections
Automatically Choose Connection Type
Scenario 0
New
Delete
Toggle PDU List Window
Fire
Last Status
Source
Destination
Type
Color
Time(sec)
Periodic
Num
Edit
Delete
Type here to search
23°C Partly sunny
ENG
11:54:39
01-12-2022

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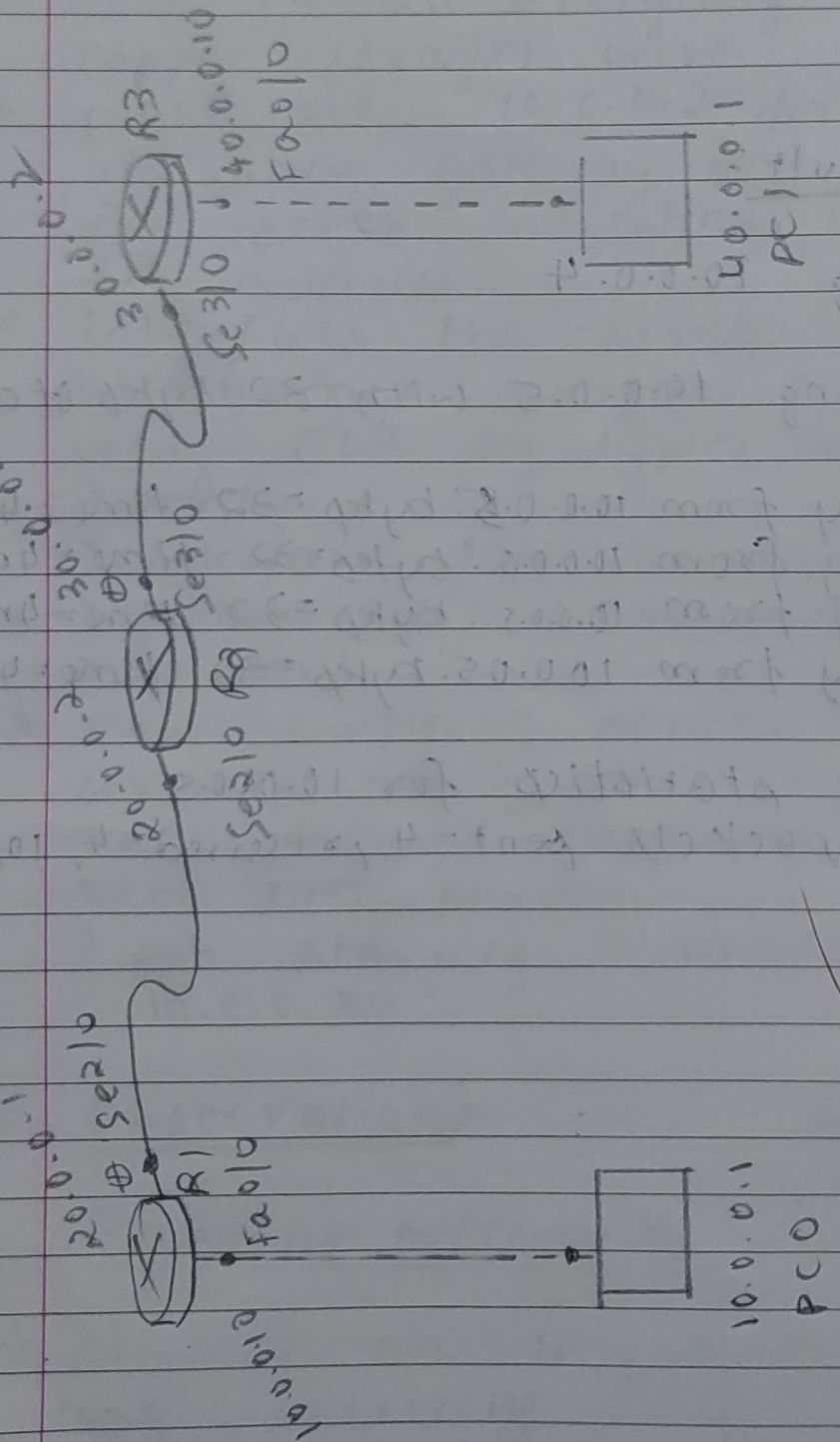
SPLASH

Aim:- Configuring RIP routing protocol in routers

Topology :-



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Procedure:-

* RIP is routing information protocol which finds best (shortest) path between source and destination network.
→ It is a distance vector routing protocol.

Procedure:-

* place 3 generic-routers, 2 generic-PC and place notes to indicate respective IP addresses.
* use serial DCE cable to connect routers and use copper cross over cable to connect PC with router 1 and router 3
* set IP address, gateway and subnet mask as 10.0.0.1, 10.0.0.10, 255.0.0.0 for PC0 and respectively set 40.0.0.1, 40.0.0.10, 255.0.0.0 for PC1
* interface PC0 and router 1 using following commands
→ interface fastethernet 0/0
→ ipaddress 20.0.0.10 255.0.0.0
→ no shut
* for interfacing serial 2/0 of router 1 use following commands
→ interface serial 2/0
→ ip address 20.0.0.1 255.0.0.0
→ encapsulation PPP

DCE

→ clock rate 64000
→ no shut

* use above commands for interfacing router which has clock symbol in cable near to it and for other interfaces of routers use same above command except "clock rate 64000" command

* once all the green lights are visible, follow the commands below for each router,
→ router rip
→ network 10.0.0.0
→ network 20.0.0.0
→ exit
* repeat above commands for router 2 and router 3 with respective network addresses.

→ observation:-

* instead of using static IP routing for all routers, by using RIP, routing becomes easy when large number of routers are present.

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→ Result :-

pinging 10.0.0.1 with 32 bytes of data:

reply from 10.0.0.1 : byte=32
reply from 10.0.0.1 : byte=32
reply from 10.0.0.1 : byte=32
reply from 10.0.0.1 : byte=32

ping statistics for 10.0.0.1 :
Packets : sent=4, received=4, lost=0

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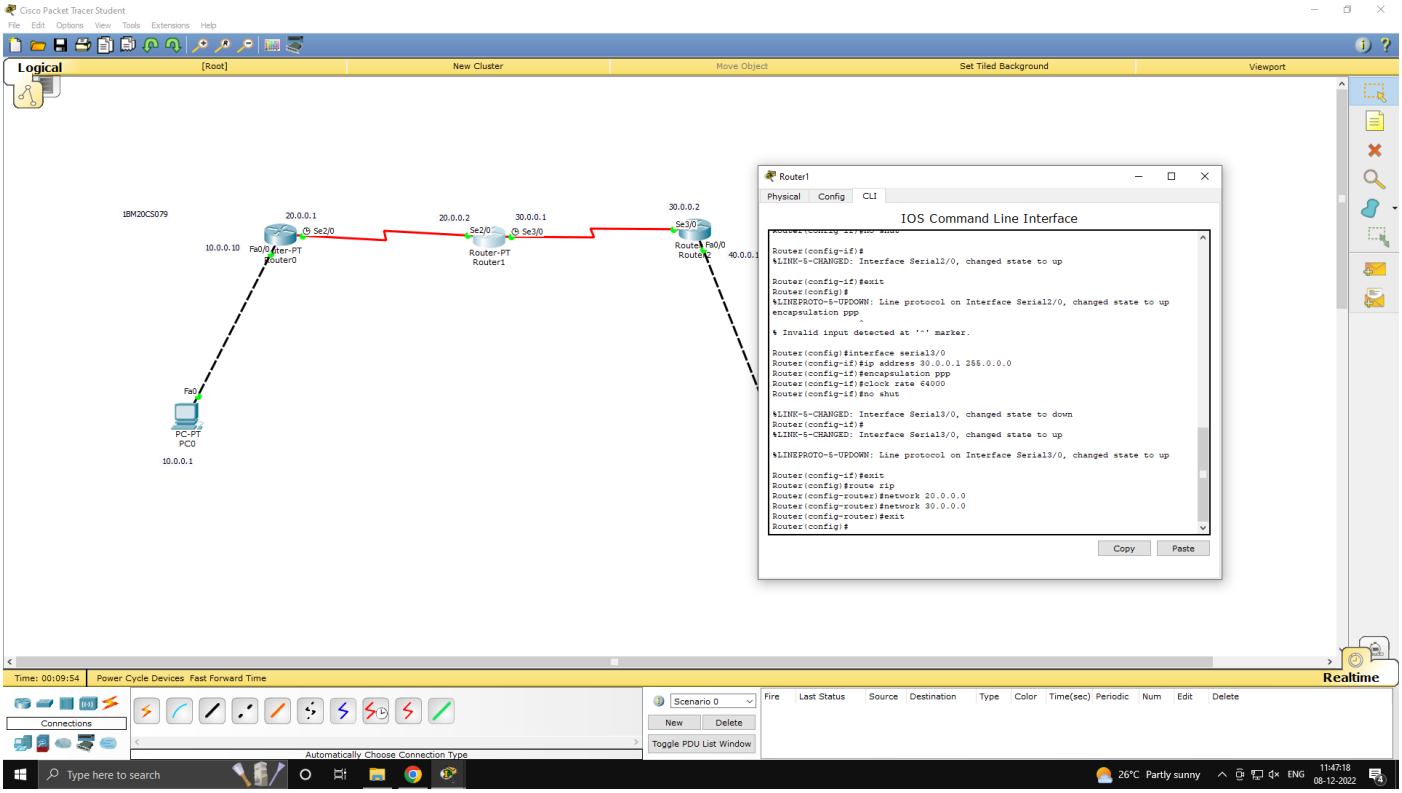
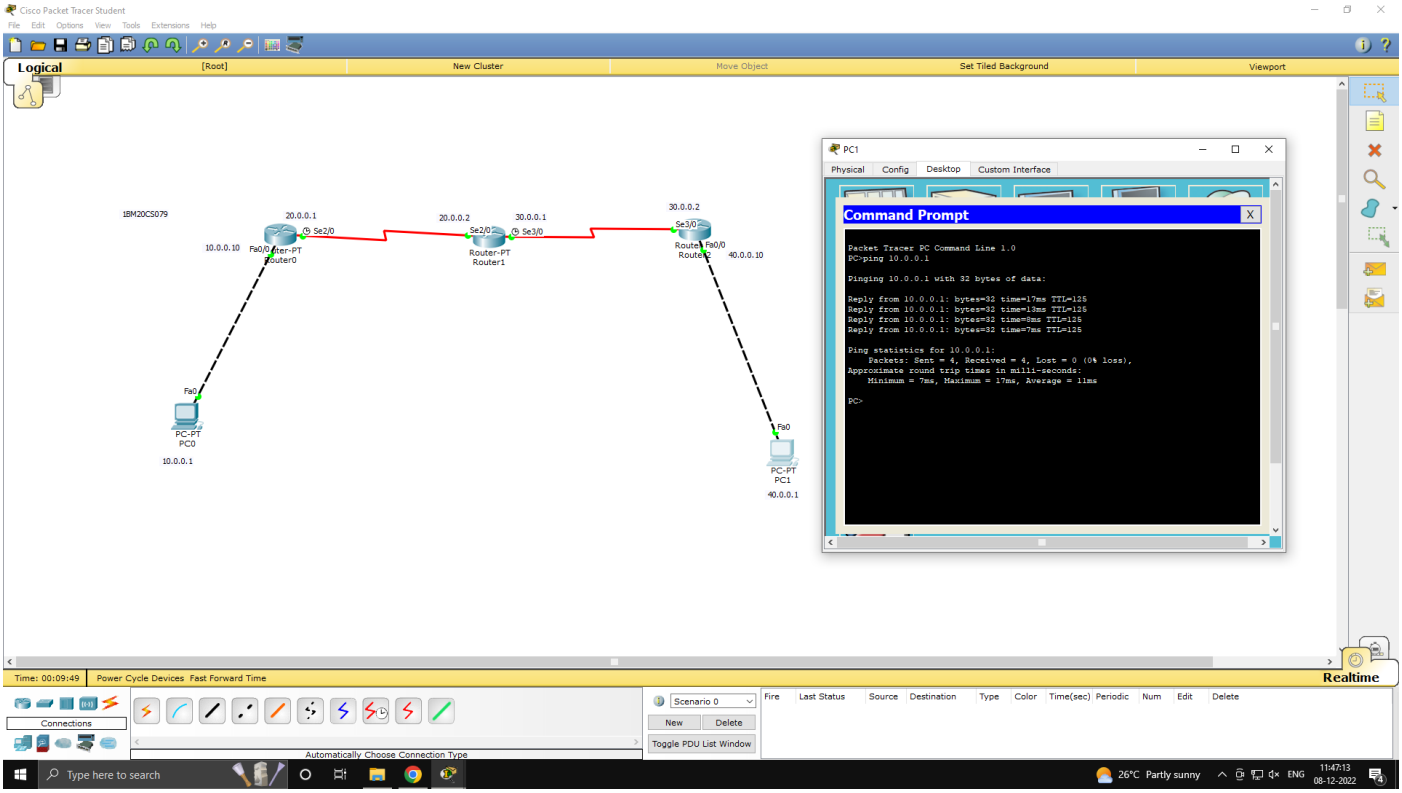
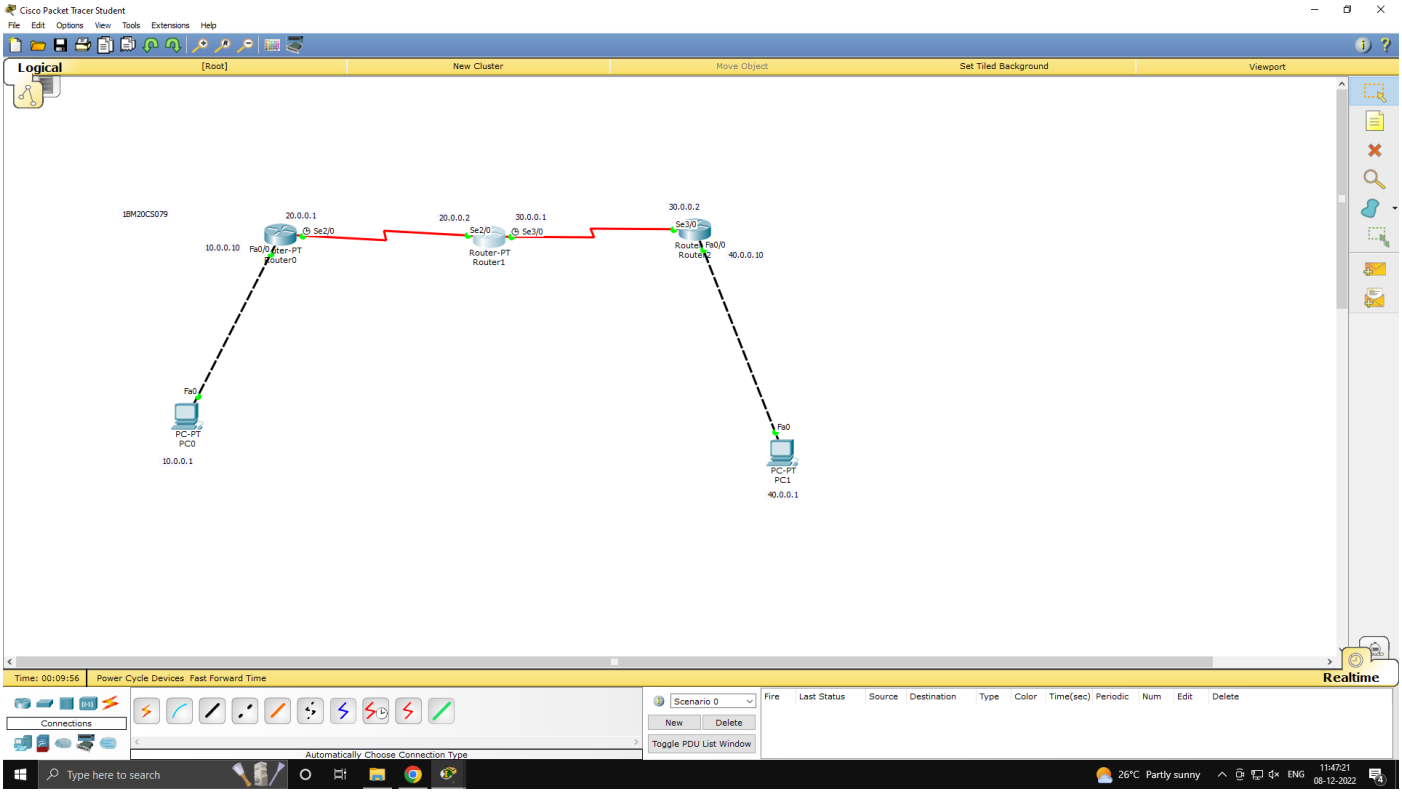

Cisco Packet Tracer Student
Logical
[Root]
New Cluster
Move Object
Set Tiled Background
Viewport
1BM20CS079
20.0.0.1
Se2/0
10.0.0.10
Fa0/0
Router-PT
Router0
20.0.0.2
Se2/0
30.0.0.1
Se3/0
Router-PT
Router1
30.0.0.2
Se3/0
Router2
Fa0/0
40.0.0.1
Fa0
PC-PT
PC0
10.0.0.1
Router1
Physical
Config
CLI
IOS Command Line Interface
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
encapsulation ppp
% Invalid input detected at '^' marker.
Router(config)#interface serial3/0
Router(config-if)#ip address 30.0.0.1 255.0.0.0
Router(config-if)#encapsulation ppp
Router(config-if)#clock rate 64000
Router(config-if)#no shut
%LINK-5-CHANGED: Interface Serial3/0, changed state to down
Router(config-if)#
%LINK-5-CHANGED: Interface Serial3/0, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial3/0, changed state to up
Router(config-if)#exit
Router(config)#route rip
Router(config-router)#network 20.0.0.0
Router(config-router)#network 30.0.0.0
Router(config-router)#exit
Router(config)#
Copy
Paste
Time: 00:09:54
Power Cycle Devices
Fast Forward Time
Realtime
Connections
Automatically Choose Connection Type
Scenario 0
New
Delete
Toggle PDU List Window
Fire
Last Status
Source
Destination
Type
Color
Time(sec)
Periodic
Num
Edit
Delete
Type here to search
26°C Partly sunny
ENG
11:47:18
08-12-2022


Cisco Packet Tracer Student
Logical
[Root]
New Cluster
Move Object
Set Tiled Background
Viewport
1BM20CS079
20.0.0.1
Se2/0
10.0.0.10
Fa0/0
Router-PT
Router0
20.0.0.2
Se2/0
30.0.0.1
Se3/0
Router-PT
Router1
30.0.0.2
Se3/0
Router-PT
Router2
Fa0/0
40.0.0.10
Fa0
PC-PT
PC0
10.0.0.1
Fa0
PC-PT
PC1
40.0.0.1
PC1
Physical
Config
Desktop
Custom Interface
Command Prompt
Packet Tracer PC Command Line 1.0
PC>ping 10.0.0.1
Pinging 10.0.0.1 with 32 bytes of data:
Reply from 10.0.0.1: bytes=32 time=17ms TTL=125
Reply from 10.0.0.1: bytes=32 time=13ms TTL=125
Reply from 10.0.0.1: bytes=32 time=7ms TTL=125
Reply from 10.0.0.1: bytes=32 time=7ms TTL=125
Ping statistics for 10.0.0.1:
Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
Minimum = 7ms, Maximum = 17ms, Average = 11ms
PC>
Time: 00:09:49
Power Cycle Devices
Fast Forward Time
Realtime
Connections
Automatically Choose Connection Type
Scenario 0
New
Delete
Toggle PDU List Window
Fire
Last Status
Source
Destination
Type
Color
Time(sec)
Periodic
Num
Edit
Delete
Type here to search
26°C Partly sunny
ENG
11:47:13
08-12-2022


Cisco Packet Tracer Student
File Edit Options View Tools Extensions Help
Logical
[Root]
New Cluster
Move Object
Set Tiled Background
Viewport
1BM20CS079
20.0.0.1
Se2/0
10.0.0.10
Fa0/0
Router-PT
Router0
20.0.0.2
Se2/0
30.0.0.1
Se3/0
Router-PT
Router1
30.0.0.2
Se3/0
Router2
Fa0/0
40.0.0.10
Fa0
PC-PT
PC0
10.0.0.1
Fa0
PC-PT
PC1
40.0.0.1
Time: 00:09:56
Power Cycle Devices Fast Forward Time
Realtime
Connections
Automatically Choose Connection Type
Scenario 0
New
Delete
Toggle PDU List Window
Fire
Last Status
Source
Destination
Type
Color
Time(sec)
Periodic
Num
Edit
Delete
Type here to search
26°C Partly sunny
ENG
11:47:21
08-12-2022

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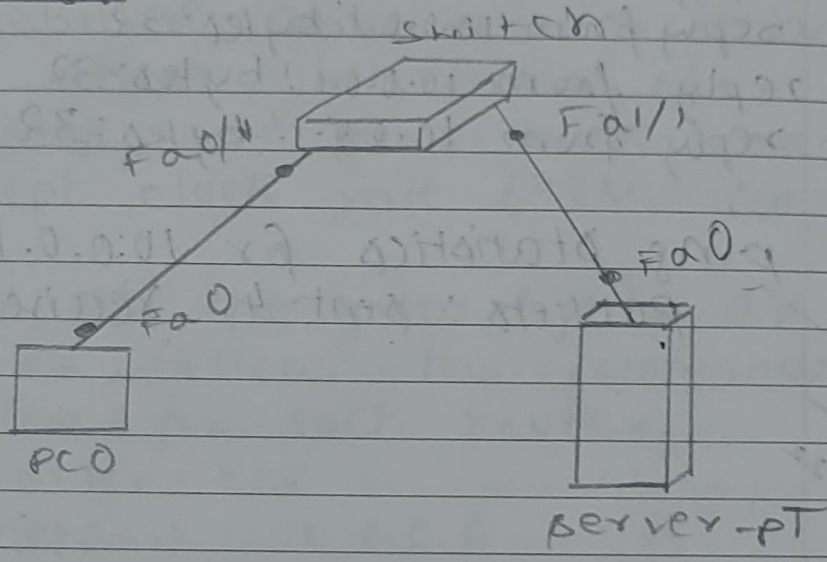
Aim:- Demonstration of WEB server and DNS using packet Tracer

Topology:-



Procedure:-

→ Set the IP address of the PC and server respectively as 10.0.0.2 & 10.0.0.1.

→ Open web-browser in desktop tab of PC and type IP of server "http://10.0.0.2"

→ Default home page will be displayed.

→ Now go to services tab of server enable HTTP and change contents of index.html by clicking edit option.

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→ check again in the browser of pc0 to see the updated changes.

→ Activate DNS :-

→ enable DNS on DNS service to activate it.
→ enter the domain name and IP addresses needed to be mapped
→ ["cn" → 10.0.0.2]
click add to add the new mapping.
→ now give name in the web-browser to check if its displaying index.html

→ Custom page :-

→ Create a new page resume.html and save it in http services.
→ change hyperlink in index.html to link the above created file.
→ check the output in the webbrowser of pc0 by clicking on hyper-link.

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Observation :-

→ We can view the webpage when we type "cn" in browser because 10.0.0.2 address is mapped to the name "cn", by domain name system concept.

→ Mapping is required because it's difficult for users to remember IP's, hence IP is mapped with a name.

Result :-

Web Browser ×

< > URL http://cn/resume.html

name	Suraj
age	18
college	BMSCE
Experience	2 Years

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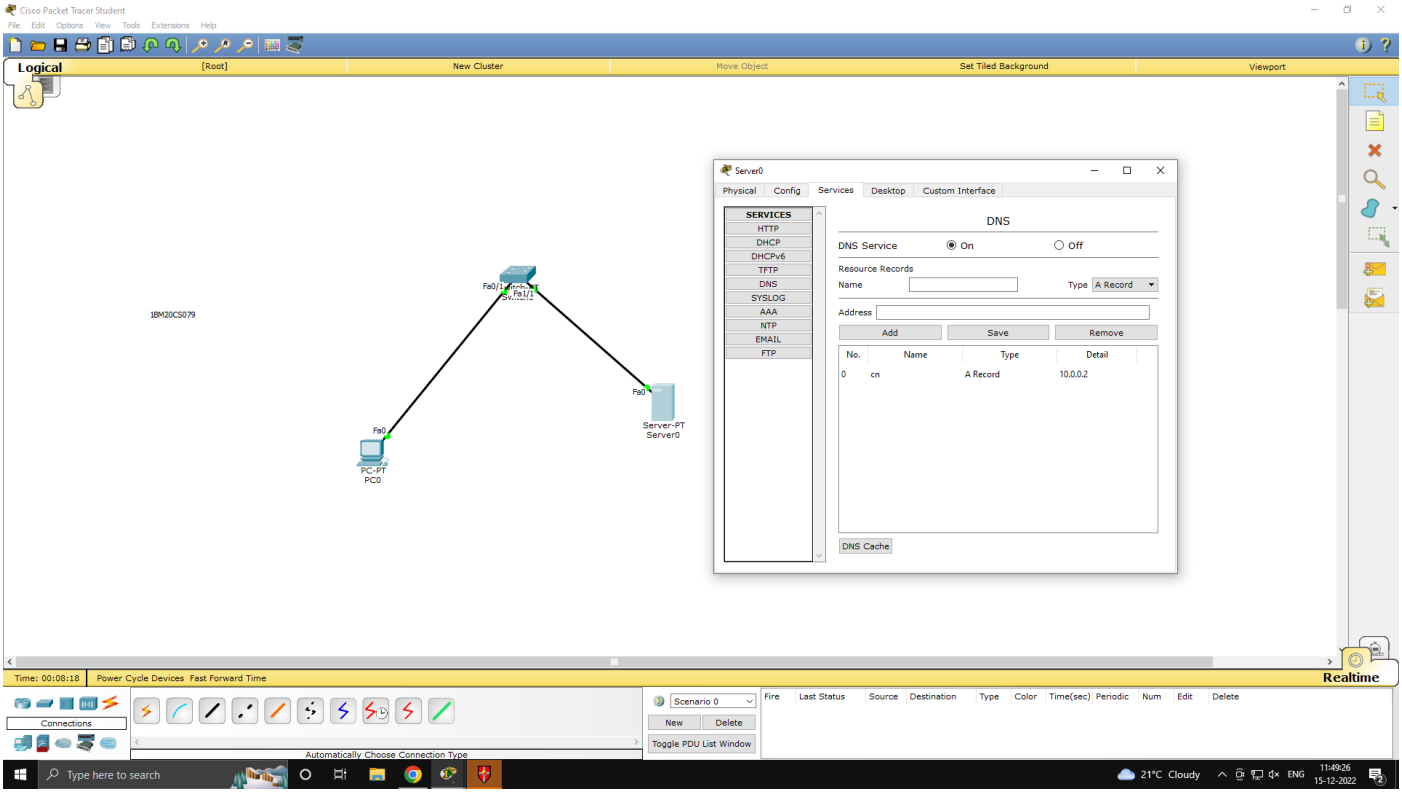
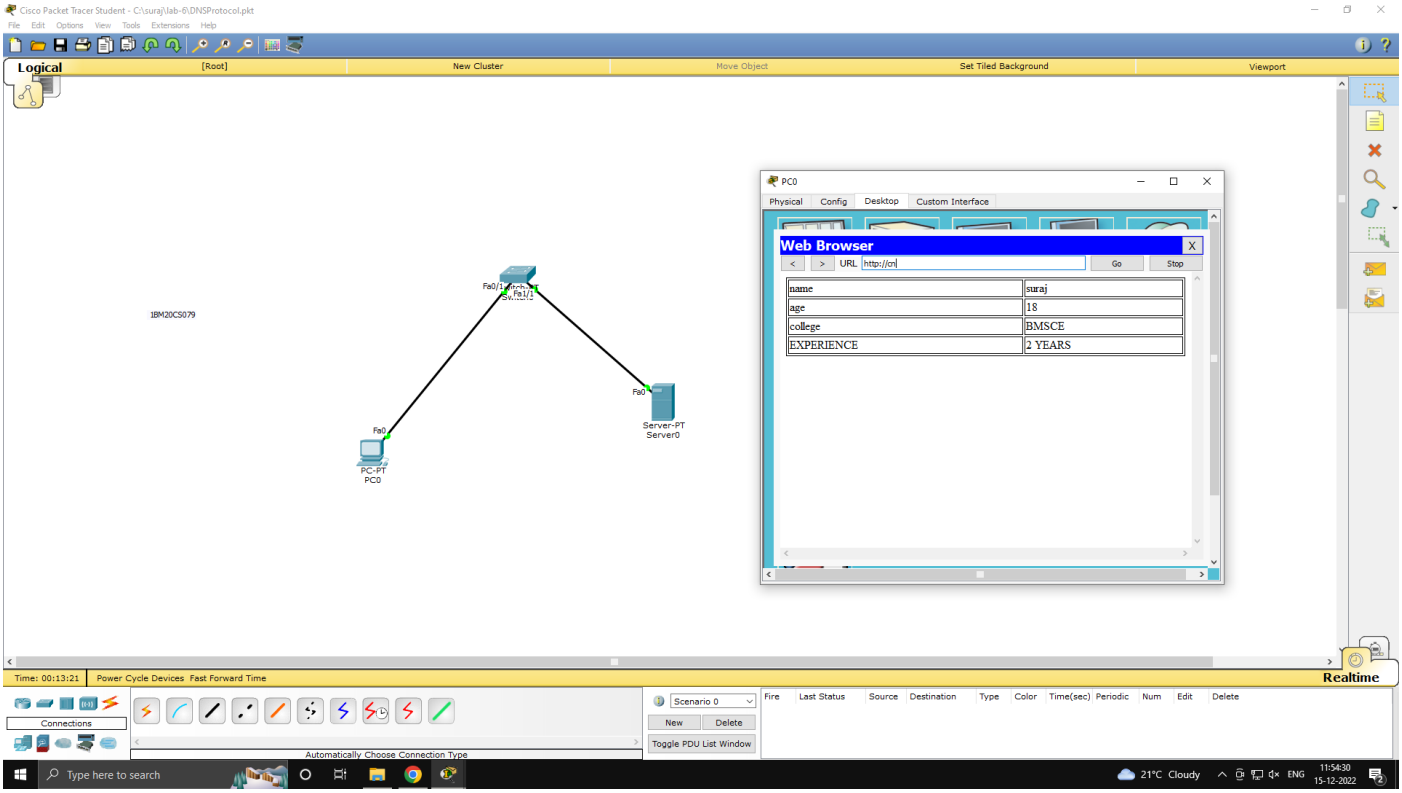
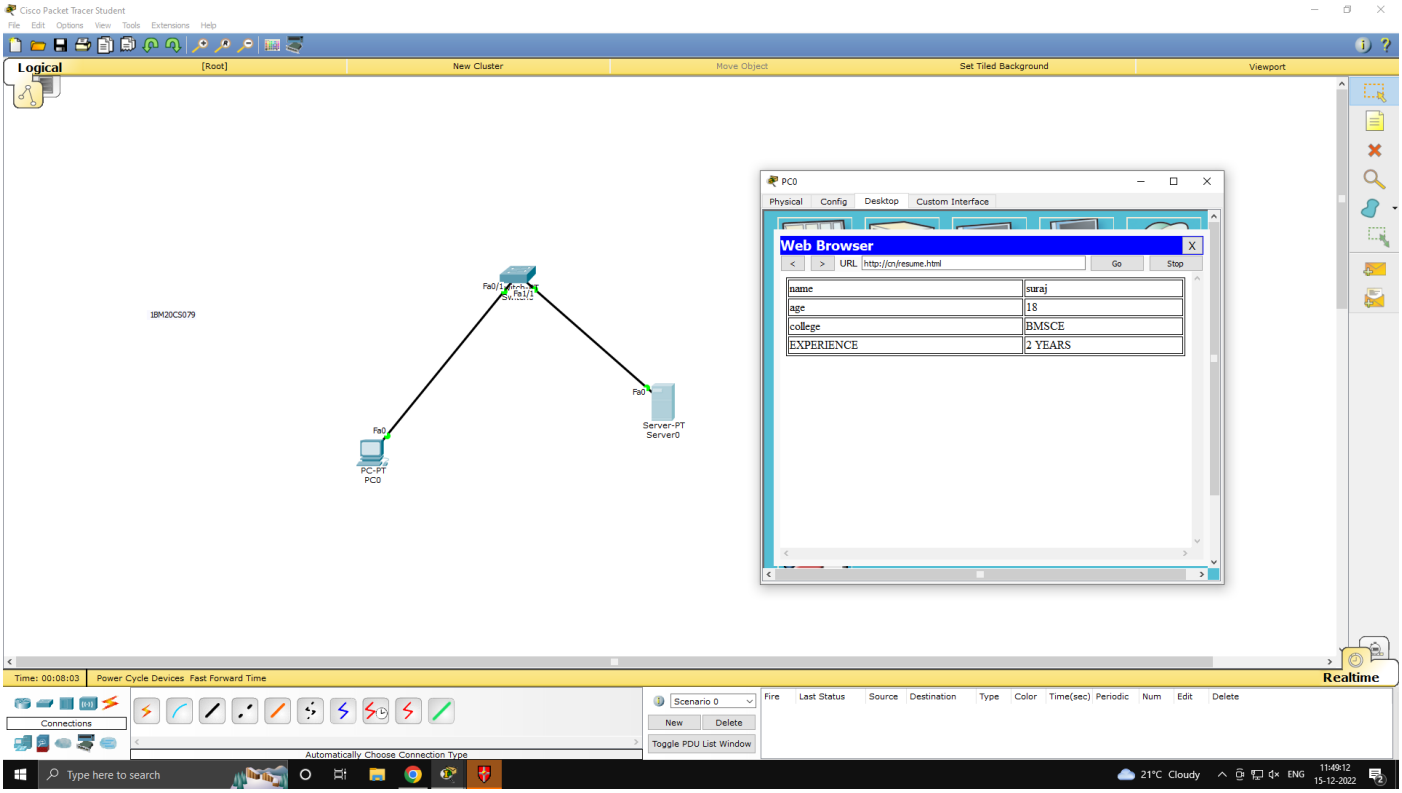

Cisco Packet Tracer Student
Logical
[Root]
New Cluster
Move Object
Set Tiled Background
Viewport
1BM20CS079
Fa0/1
Fa0
Server-PT
Server0
PC-PT
PC0
Server0
Physical
Config
Services
Desktop
Custom Interface
SERVICES
HTTP
DHCP
DHCPv6
TFTP
DNS
SYSLOG
AAA
NTP
EMAIL
FTP
DNS
DNS Service
On
Off
Resource Records
Name
Type
A Record
Address
Add
Save
Remove
No.
Name
Type
Detail
0
cn
A Record
10.0.0.2
DNS Cache
Time: 00:08:18
Power Cycle Devices
Fast Forward Time
Realtime
Connections
Automatically Choose Connection Type
Scenario 0
New
Delete
Toggle PDU List Window
Fire
Last Status
Source
Destination
Type
Color
Time(sec)
Periodic
Num
Edit
Delete
Type here to search
21°C
Cloudy
ENG
11:49:26
15-12-2022


Cisco Packet Tracer Student - C:\suraj\lab-6\DNSProtocol.pkt
Logical
[Root]
New Cluster
Move Object
Set Tiled Background
Viewport
1BM20CS079
Fa0
PC-PT
PC0
Fa0
Server-PT
Server0
PC0
Physical
Config
Desktop
Custom Interface
Web Browser
URL
http://cn
Go
Stop
name
suraj
age
18
college
BMSCE
EXPERIENCE
2 YEARS
Time: 00:13:21
Power Cycle Devices
Fast Forward Time
Realtime
Connections
Automatically Choose Connection Type
Scenario 0
New
Delete
Toggle PDU List Window
Fire
Last Status
Source
Destination
Type
Color
Time(sec)
Periodic
Num
Edit
Delete
Type here to search
21°C Cloudy
ENG
11:54:30
15-12-2022


Cisco Packet Tracer Student
Logical
[Root]
New Cluster
Move Object
Set Tiled Background
Viewport
1BM20CS079
Fa0/1
Fa0/1
Fa0
Server-PT
Server0
Fa0
PC-PT
PC0
PC0
Physical
Config
Desktop
Custom Interface
Web Browser
URL
http://cn/resume.html
Go
Stop
name
suraj
age
18
college
BMSCE
EXPERIENCE
2 YEARS
Time: 00:08:03
Power Cycle Devices
Fast Forward Time
Realtime
Connections
Automatically Choose Connection Type
Scenario 0
New
Delete
Toggle PDU List Window
Fire
Last Status
Source
Destination
Type
Color
Time(sec)
Periodic
Num
Edit
Delete
Type here to search
21°C Cloudy
ENG
11:49:12
15-12-2022

29/4/22

Date / /
Page
SPLASH

Aim: Write a program for error detecting code using CRC-CCITT

code:

```
def dir(code,pol):
    i=len(poly)
    temp=code[0:len(poly)]
    for j in range(0,len(code)-len(poly)):
        if(temp[0]!='0'):
            rep=xor(temp,poly,len(poly))
            temp=rep[1:]+code[i]
        else:
            temp=temp[1:]+code[i]
        i=i+1
    print
    if(temp[0]!='0'):
        rep=xor(temp,poly,len(poly))
        send=rep[1:0]
    else:
        send=temp[1:]
    return send

def xor(a,b,n):
    ans=""
    for i in range(n):
        if(a[i]==b[i]):
            ans+="0"
        else:
            ans+="1"
    return ans
```

```
code = input ("enter codeword \n")
poly = "10001000000100001"
zeroes = "0000000000000000"
mod_code = code + zeroes
rendes = divipion(mod_code, poly)
receives = code + rendes
ans = divipion(receiver, poly)
  if ans == "0000000000000000"
      print ("no error in data")
  else.
      print (" error in data")
```

OUTPUT

Enter codeword
10111 01
no error

Enter codeword
100100
error when: 100100000 is sent

Q1 Done
29-12-2022


PS C:\Users\mdsur\Documents\COLLEGE\1BM20CS079-CN-LAB\7-CRC> python -u "c:\Users\mdsur\Documents\COLLEGE\1BM20CS079-CN-LAB\7-CRC\crc.py"
ENTER CODEWROD
10001000000100001
sender data is 110
receiver data is 10001000000100001110
no error
PS C:\Users\mdsur\Documents\COLLEGE\1BM20CS079-CN-LAB\7-CRC>

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Page
SPLASH

Aim:- Write a program for distance vector algorithm to find suitable path for transmission

code:-

```
#include <bits/stdc++.h>
using namespace std;
#define MAX 10
int n;
class routerd
char adj_new[MAX], adj_old[MAX];
int table_new[MAX], table_old[MAX];
public:
    router(){
for(int i=0;i<MAX;i++) table_old[i]=
table_new[i]=99;
}
int equal(){
for(int i=0;i<n;i++)
if(table_old[i]!=table_new[i]||
adj_new[i]!=adj_old[i]) return 0;
}
void input(int j){
  cout<<" Enter 1 for corresponding
router is adjacent to router "
<<(char)('A'+j)<<" else 99:"<<endl<<
cout<<"enter matrix";
```

```
for (int i=0; i<n; i++){
  if (i==j)
    table_new[i]=0;
else
   cin>>table_new[i];
  adj_new[i]=(char)('A'+i);
}
cout<<end;
}
void display(){
 cout<<"\n dest router:";
for(int i=0; i<n; i++);
 cout<<"\n out line";
for(int i=0; i<n; i++) cout<<adj[i];
  cout<<"\n hop count";
for(int j=0; i<n; i++) cout<<table[i];
}

void build_tab6(){
 int i=j=0;
while(i!=n){
for(i=j; i<n; i++){
    r[i].copy();
     r[i].build(i);
 }
for(i=0; i<n; i++)
{ if (!r[i].equal()){
        j=i;
    break;
   }
 }
}
```

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SPLASH

```
int main(){
 cout<<" enter no of routers(<"<<MAX<<"):";
 cin>>n;
for(int i=0; i<n; i++) r[i].input(i);
 build();
for(i=0; i<n; i++){
 cout<<" router table entries for
 router "<<(char)('A'+i)<<":-1"<<endl;
  r[i].display();
  cout<<endl<<endl;
 }
}
```

OUTPUT:-

```
enter number of routers(<10):5
enter 1 if router is adjacent to A else 99:
B C D E
enter matrix: 1 1 99 99

enter 1 if router is adjacent to B else 99:
A C D E
A B C E
enter matrix: 99 99 1 99

enter 1 if router is adjacent to E else 99:
A B C D
enter matrix: 99 99 1 99
```

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SPLASH

router table entries for A:-
Dest router: A B C D E
outgoing line: A B C D E
Hop count: 0 1 1 99 99

router table entries for B:-
dest router: A B C D E
Outgoing line: A B C D E
Hop count: 1 0 99 99 99

router table entries for router C:-
dest router: A B C D E
out line:- A B C D E
Hop count: 1 99 0 1 1

router table entries for router D:-
dest router: A B C D E
out line:- A B C D E
hop count: 99 99 1 0 99

router table entries for router E:-
dest router: A B C D E
out line: A B C D E
hop count: 99 99 199 0

```
PS C:\Users\mdsur\Documents\COLLEGE-LAB> cd "c:\Users\mdsur\Desktop\DISTANCE_VECTOR\" ; if ($?) { g++ dv.cpp -o dv } ; if ($?) { .\dv }
Enter the number the routers(<10): 5
Enter 1 if the corresponding router is adjacent to routerA else enter 99:
 B C D E
Enter matrix:1 1 99 99

Enter 1 if the corresponding router is adjacent to routerB else enter 99:
 A C D E
 A B C E
Enter matrix:99 99 1 99

Enter 1 if the corresponding router is adjacent to routerE else enter 99:
 A B C D
Enter matrix:99 99 1 99

Router Table entries for router A:-
Destination Router: A B C D E
Outgoing Line: A B C D E
Hop Count: 0 1 1 99 99

Router Table entries for router B:-
Destination Router: A B C D E
Outgoing Line: A B C D E
Hop Count: 1 0 99 99 99

Router Table entries for router C:-
Destination Router: A B C D E
Outgoing Line: A B C D E
Hop Count: 1 99 0 1 1

Router Table entries for router D:-
Destination Router: A B C D E
Outgoing Line: A B C D E
Hop Count: 99 99 1 0 99

Router Table entries for router E:-
Destination Router: A B C D E
Outgoing Line: A B C D E
Hop Count: 99 99 1 99 0
```

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SPLASH

Aim:- Implement dijkstra's algorithm to compute shortest path for given topology

code:-

```
#include<bits/stdc++.h>
#include<limits.h>
#include<stdio.h>
using namespace std;
#define V 4
int minDist(int d[], bool s[])
{
    int min=INT_MAX, m_i;
    for(int v=0; v<V; v++)
        if(s[v]==false && d[v]<=min)
            min=d[v], m_i=v;
    return m_i;
}

void printSolution(int dist[])
{
    printf("vertex dist from source");
    for(int i=0; i<V; i++)
        printf("%d \t\t %d\n",i,d[i]);
}
void dijkstra(int g[V][V], int s)
{
    int d[V]; bool s[V];
    for(int i=0; i<V; i++)
        d[i]=INT_MAX, S[i]=false;
```

```
d[src]=0
for(int c=0; c<v-1; c++){
  int u= minD(dist, s);
  s[u]= true;
  for(int v=0; v<V; v++)
    if(!s[v] && g[u][v] && d[u]!=
    INT_MAX && d[u]+g[u][v]<
    d(v))
      d[v]=d[u]+g[u][v];
}
}
printSolution(dist);
}

int main()
{
  int g[v][v];
  cout<<"enter graph"<<endl;
  for(int i=0; i<v; i++)
  {
    for(int j=0; j<v; j++)
      cin>>g[i][j];
  }
  dijkstra(graph,0);
  return 0;
}
```

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SPLASH

OUTPUT :-

```
enter graph
0 9 2 5
9 0 6 3
2 6 0 0
5 8 0 0
vertex        Distance from source
  0                   0
  1                   8
  2                   2
  3                   5
```

```
PS C:\Users\mdsur\Documents\COLLEGE-LAB> cd "c:\Users\mdsur\Documents\COLLEGE-LAB\" ; if ($?) { g++ djikstras.cpp -o djikstras } ; if ($?) { .\djikstras }
Enter the graph
0 9 2 5
9 0 6 8
2 6 0 0
5 8 0 0
Vertex          Distance from Source
0               0
1               8
2               2
3               5
PS C:\Users\mdsur\Documents\COLLEGE-LAB>
```

5/1/23

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SPLASH

Aim :- WAP for congestion control using leaky bucket algorithm

code:-

```
b_c = input("enter bucket capacity")
o_r = input("enter output rate=")
b_cont = 0
while(1):
    p_s = input("enter frame size")
    if (p_s > b_c):
        print("exceeded"
        continue
    elif (int(p_s)+b_cont>int(b_c)):
        print("full")
        b_cont += b_cont - int(o_r)
        continue
    else:
        b_cont += int(p_s)
        b_cont -= int(o_r)
        print("b_cont = "+str(b_cont))
```

OUTPUT :-

enter bucket capacity =500
enter output rate =5
enter frame size =250
b_cont =245
enter frame size=260
exceeded
b_cont=240


C:\Program Files\WindowsAp
enter bucket capacity = 500
enter output rate = 5
enter packet size = 250
current bucket content = 245
enter packet size = 260
bucket is already full
240
enter packet size = 220
current bucket content = 455
enter packet size = 45
current bucket content = 495
enter packet size =


C:\Program Files\WindowsAp
enter bucket capacity = 500
enter output rate = 5
enter packet size = 600
packet size exceeded
current bucket content = 0
enter packet size =

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Aim:- Using TCP/IP sockets, write client_server program to make client sending the filename and server to send back contents of requested file if present

clientTCP.py:-

```
from socket import *
serverName = '127.0.0.1'
serverPort = 12000
clientSock = socket(AF_INET, SOCK_STREAM)
clientSock.connect((serverName, serverPort))
msg = input("\n enter filename: ")
clientSock.send(msg.encode())
file cont = clientSock.recv(1024).decode();
print("\n From Server\n")
print(file cont)
clientsock.close()
```

serverTCP.py:-

```
from socket import *
sName = '127.0.0.1'
sPort = 12000
sock = socket(AF_INET, SOCK_STREAM)
sock.bind((sName, sPort))
sock.listen(1)
while 1:
    print("ready to receive")
    cSock, addr = sock.accept()
```

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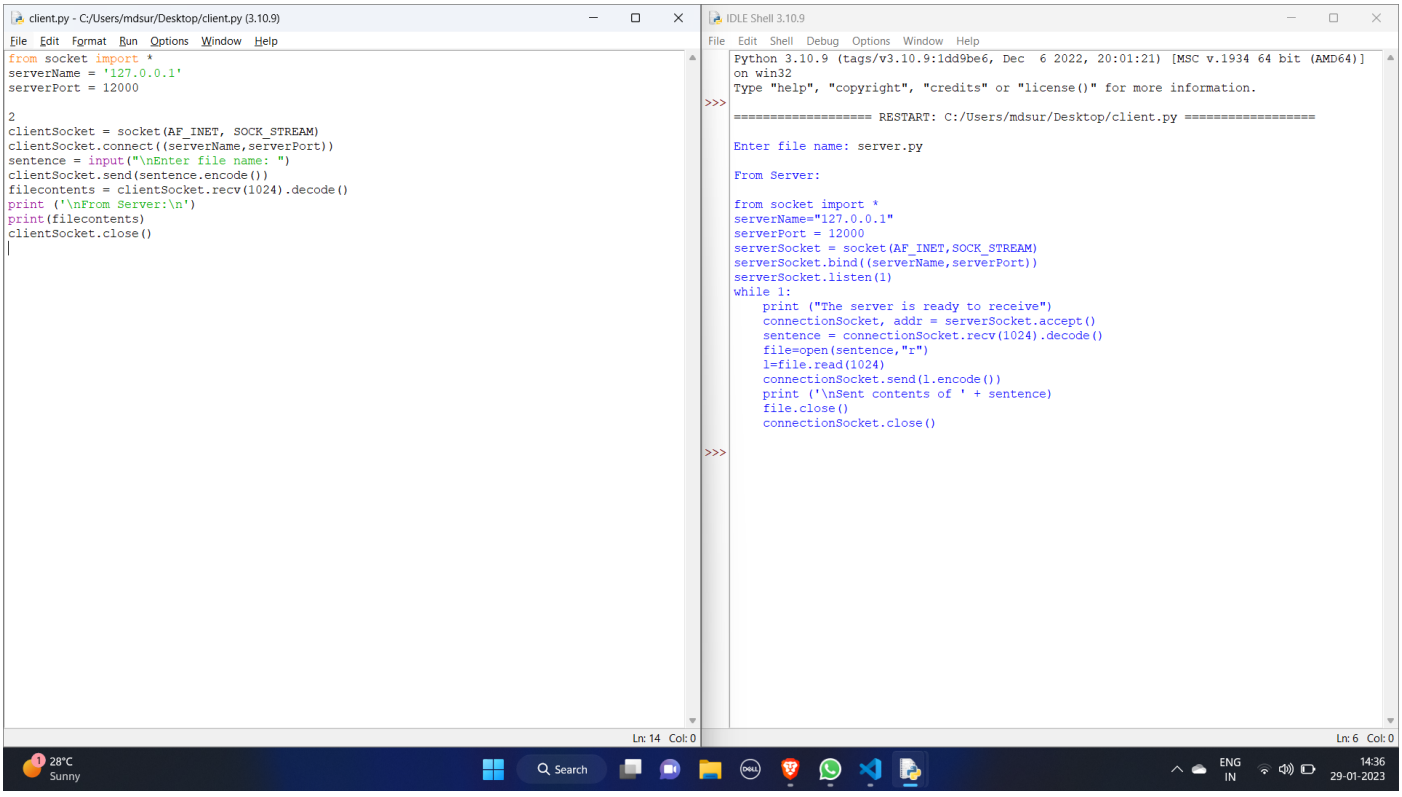
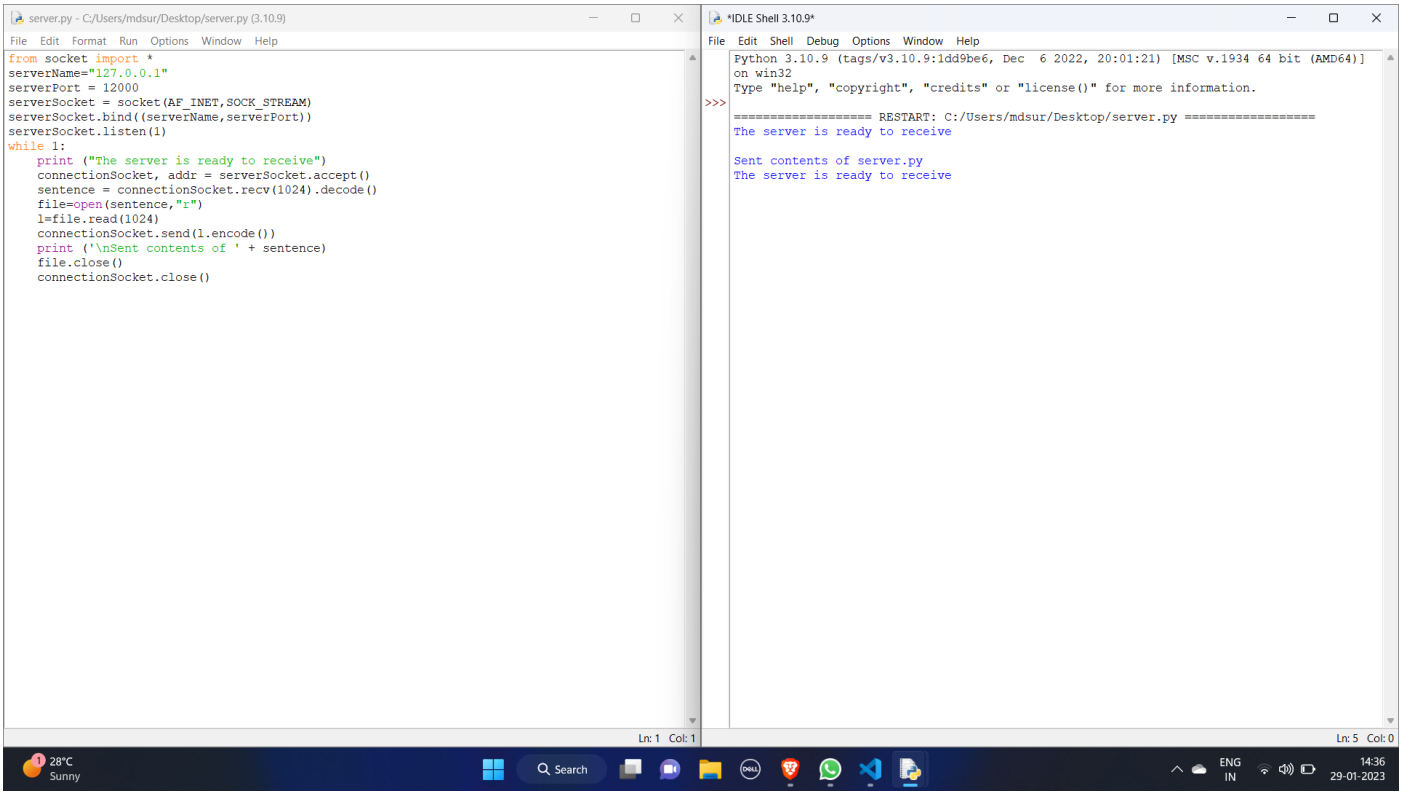
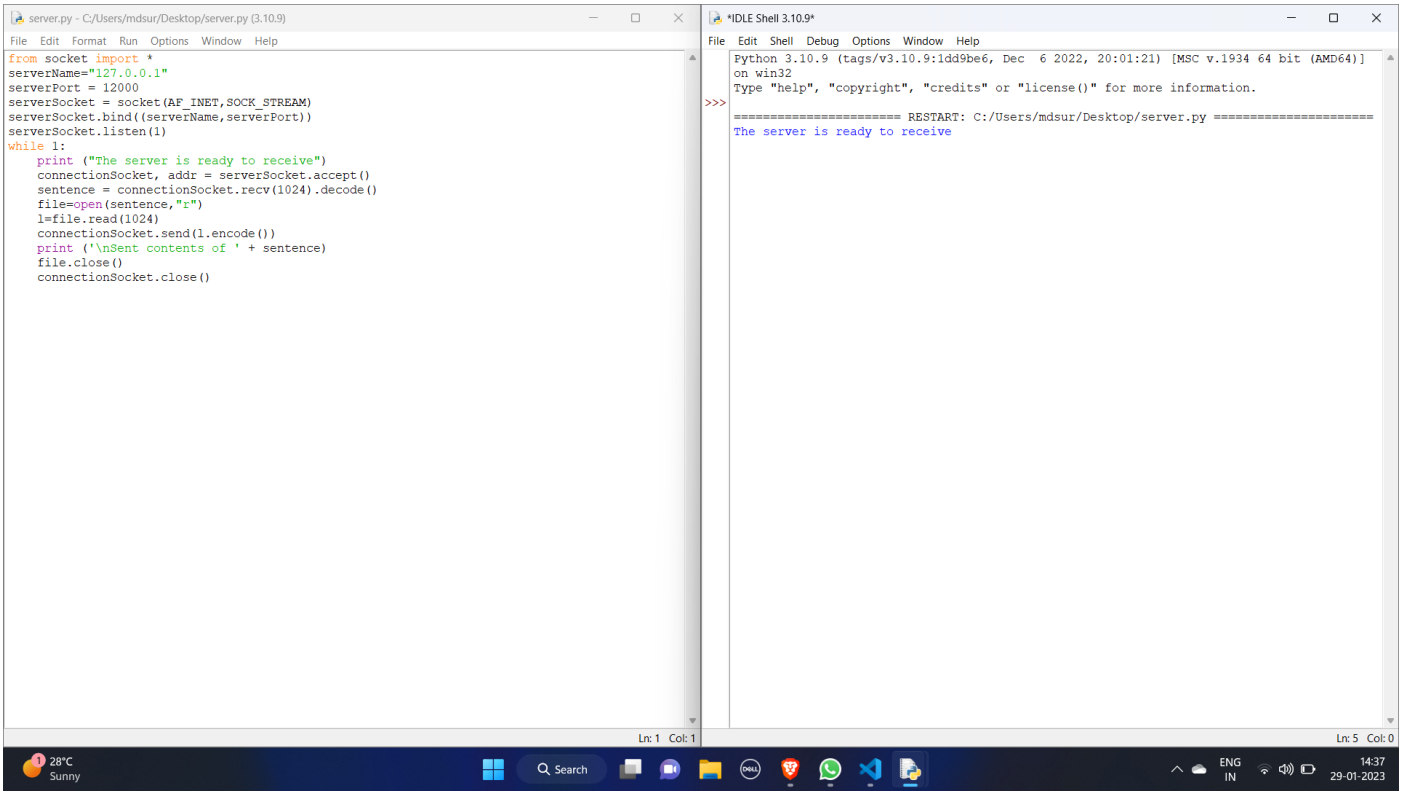
```
msg = csock.recv(1024).decode()
file = open(msg, "r")
l=file.read(1024)
csock.send(l.encode())
print('\n Sent contents of ' + msg)
file.close()
csock.close()
```


client.py - C:/Users/mdsur/Desktop/client.py (3.10.9)
File Edit Format Run Options Window Help
from socket import *
serverName = '127.0.0.1'
serverPort = 12000
2
clientSocket = socket(AF_INET, SOCK_STREAM)
clientSocket.connect((serverName,serverPort))
sentence = input("\nEnter file name: ")
clientSocket.send(sentence.encode())
filecontents = clientSocket.recv(1024).decode()
print ('\nFrom Server:\n')
print(filecontents)
clientSocket.close()
Ln: 14 Col: 0
IDLE Shell 3.10.9
File Edit Shell Debug Options Window Help
Python 3.10.9 (tags/v3.10.9:1dd9be6, Dec 6 2022, 20:01:21) [MSC v.1934 64 bit (AMD64)]
on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
========== RESTART: C:/Users/mdsur/Desktop/client.py ==========
Enter file name: server.py
From Server:
from socket import *
serverName="127.0.0.1"
serverPort = 12000
serverSocket = socket(AF_INET,SOCK_STREAM)
serverSocket.bind((serverName,serverPort))
serverSocket.listen(1)
while 1:
print ("The server is ready to receive")
connectionSocket, addr = serverSocket.accept()
sentence = connectionSocket.recv(1024).decode()
file=open(sentence,"r")
l=file.read(1024)
connectionSocket.send(l.encode())
print ('\nSent contents of ' + sentence)
file.close()
connectionSocket.close()
>>>
Ln: 6 Col: 0
28°C
Sunny
Search
ENG
IN
14:36
29-01-2023


server.py - C:/Users/mdsur/Desktop/server.py (3.10.9)
File Edit Format Run Options Window Help
from socket import *
serverName="127.0.0.1"
serverPort = 12000
serverSocket = socket(AF_INET,SOCK_STREAM)
serverSocket.bind((serverName,serverPort))
serverSocket.listen(1)
while 1:
print ("The server is ready to receive")
connectionSocket, addr = serverSocket.accept()
sentence = connectionSocket.recv(1024).decode()
file=open(sentence,"r")
l=file.read(1024)
connectionSocket.send(l.encode())
print ('\nSent contents of ' + sentence)
file.close()
connectionSocket.close()
Ln: 1 Col: 1
IDLE Shell 3.10.9
File Edit Shell Debug Options Window Help
Python 3.10.9 (tags/v3.10.9:1dd9be6, Dec 6 2022, 20:01:21) [MSC v.1934 64 bit (AMD64)]
on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
========== RESTART: C:/Users/mdsur/Desktop/server.py ==========
The server is ready to receive
Sent contents of server.py
The server is ready to receive
Ln: 5 Col: 0
28°C
Sunny
Search
ENG
IN
14:36
29-01-2023


server.py - C:/Users/mdsur/Desktop/server.py (3.10.9)
File Edit Format Run Options Window Help
from socket import *
serverName="127.0.0.1"
serverPort = 12000
serverSocket = socket(AF_INET,SOCK_STREAM)
serverSocket.bind((serverName,serverPort))
serverSocket.listen(1)
while 1:
print ("The server is ready to receive")
connectionSocket, addr = serverSocket.accept()
sentence = connectionSocket.recv(1024).decode()
file=open(sentence,"r")
l=file.read(1024)
connectionSocket.send(l.encode())
print ('\nSent contents of ' + sentence)
file.close()
connectionSocket.close()
Ln: 1 Col: 1
IDLE Shell 3.10.9
File Edit Shell Debug Options Window Help
Python 3.10.9 (tags/v3.10.9:1dd9be6, Dec 6 2022, 20:01:21) [MSC v.1934 64 bit (AMD64)]
on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
========== RESTART: C:/Users/mdsur/Desktop/server.py ==========
The server is ready to receive
Ln: 5 Col: 0
28°C
Sunny
Search
ENG
IN
14:37
29-01-2023

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Page
SPLASH

AIM:- Using UDP sockets, write a client server program to make client sending the file name and the server to send back the contents of requested file if present

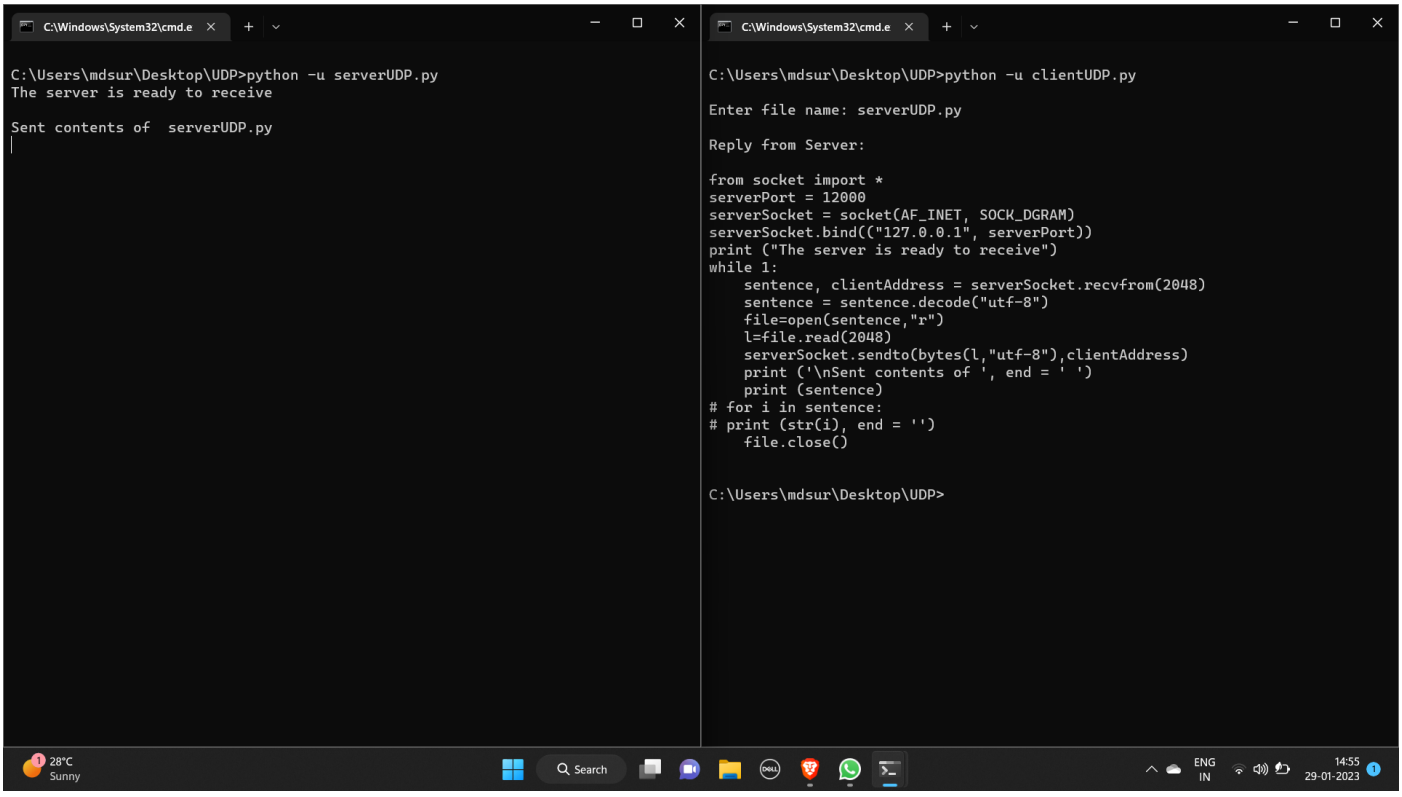
client.py

```
from socket import *
sname='127.0.0.1'; sport=12000
csock = socket(AF_INET,SOCK_DGRAM);
msg= input("\n enter file name");
csock.sendto(bytes(msg,"utf-8"),(sname,
 sport))

fcont, sadd = csock.recvfrom(2048)
print(filecont.decode("utf-8"))
csock.close()
```

server.py

```
from soket import *
sname='127.0.0.1'; sport=12000
ssock = socket(AF_INET, SOCK_DGRAM);
ssock.bind(("127.0.0.1",sport))
print("ready to listen");
while 1:
    msg, cadd = ssock.recvfrom(2048)
    msg = msg.decode("utf-8")
    file=open(msg,"r")
    l=file.read(2048)
    ssock.sendto(bytes(l,"utf-8"),
     cadd)
    print(msg)
    file.close()
```


C:\Windows\System32\cmd.e
C:\Users\mdsur\Desktop\UDP>python -u serverUDP.py
The server is ready to receive
Sent contents of serverUDP.py
C:\Windows\System32\cmd.e
C:\Users\mdsur\Desktop\UDP>python -u clientUDP.py
Enter file name: serverUDP.py
Reply from Server:
from socket import *
serverPort = 12000
serverSocket = socket(AF_INET, SOCK_DGRAM)
serverSocket.bind(("127.0.0.1", serverPort))
print ("The server is ready to receive")
while 1:
sentence, clientAddress = serverSocket.recvfrom(2048)
sentence = sentence.decode("utf-8")
file=open(sentence,"r")
l=file.read(2048)
serverSocket.sendto(bytes(l,"utf-8"),clientAddress)
print ('\nSent contents of ', end = ' ')
print (sentence)
# for i in sentence:
# print (str(i), end = '')
file.close()
C:\Users\mdsur\Desktop\UDP>
28°C
Sunny
Search
ENG
IN
14:55
29-01-2023