Rupesh Dharme
TE 01
31124

Assignment 2

Problem Statement :

Set up a LAN which contain wired and wireless LAN using packet tracer tool. Demonstrate tranfer of packet from LAN1 wired to LAN2 (wireless).

Title : Wired - wireless LAN setup

Defination: to setup a wired - wireless LAN setup using a packet tracer tool. and connect wired and wireless LANs

Requirements :

packet tracer tool
wireshark tool
(assignment was conducted virtually due to pandemic).

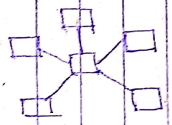
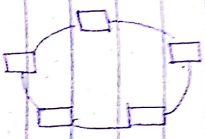
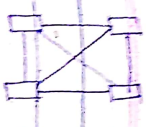
Theory :

Topology.

Topology refers to the manner in which the links in a computer network are connected to relate to each other. physical topologies includes:

star, mesh, tree, ring, P2P, hybrid etc.

Teacher's Signature

feature	star topology	Bus topology	ring topology	mesh topology
structure				
cost	requires more than Bus	less compared to others	High cost	higher than other topologies
no of links for n nodes	(n-1)	(n-1)	n	(n)(n+1)/2
advantage	• easy to add another comp. • if a node fails, system manages	• good for small networks • less cable is needed	• high speed data transfer • server not needed to control	• fault tolerance • guarenteed communication
disadvantage	• if central node fails, system fails. • may have high cost.	• hard to troubleshoot • adding devices slow down network	• network impacted if one node shut down • more expensive	• lot of cabling • maintainance

3112 4

Page No.
Date: / /

Difference in ad hoc vs infrastructure based connectivity

character	infrastructure based	ad-hoc.
security	more security options	no security
Range	Determined by no. of AP.	restricted to range of device.
speed	usually faster	usually slower
communication	through access point	direct between devices

How was the experiment performed:

Our Lab teacher Preeti Jain maam explained step by step the way we connect a wired LAN to a wireless LAN on cisco packet tracer. Then we implemented the network and in simulation mode sent pdu from one wired node to one wirelessly connected node. The connection was checked also by pinging the device in real mode.

Next part was to do the assignment in real. We connected our Laptop to our

Teacher's Signature

mobile network and pinget he mobile. The packets were captured in wireshark and and analysed.

troubleshooting:

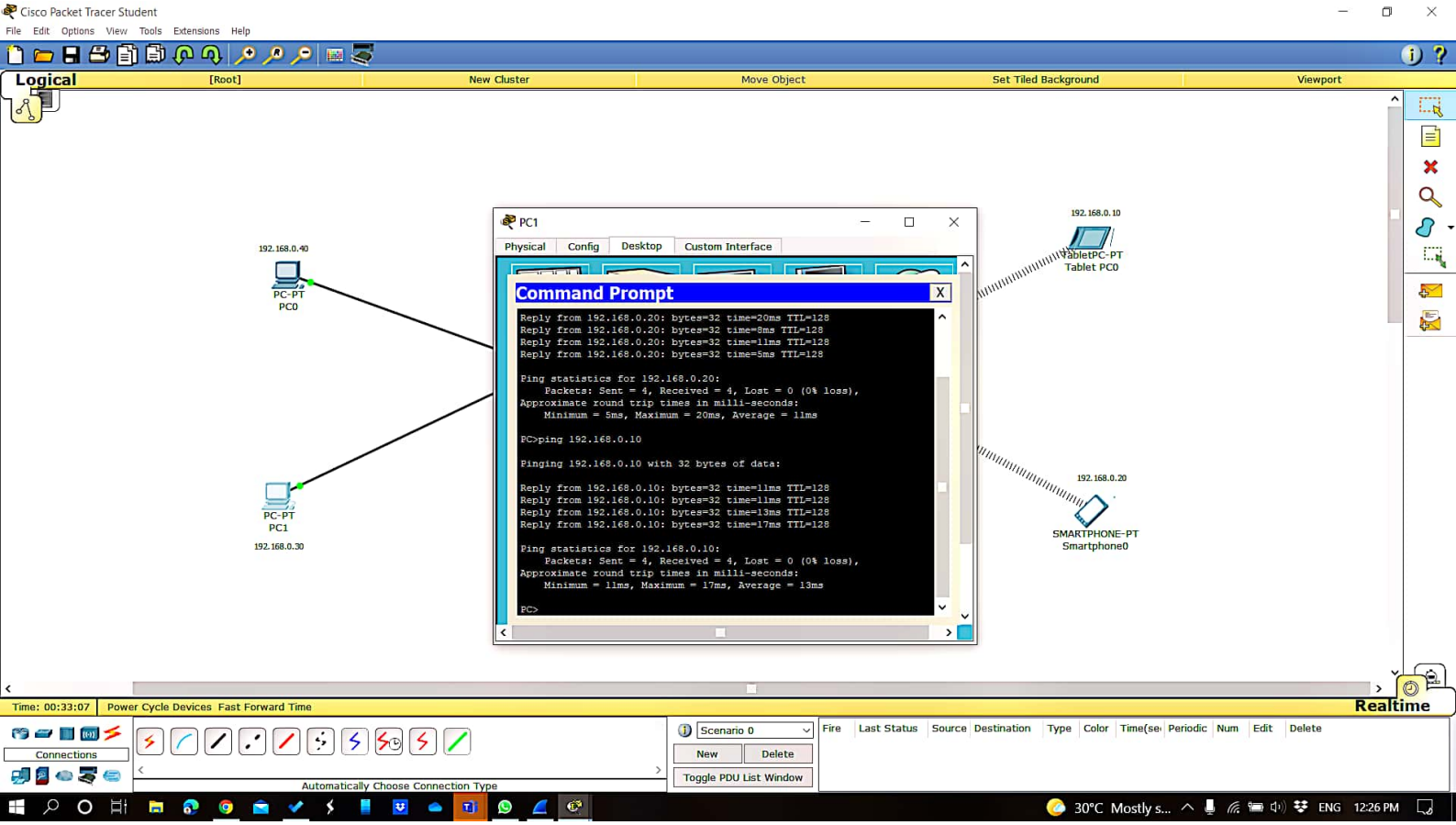
The ping command do not get response. This issue was solved by checking that both devices were connected to each other. and the ping <ip> was correct.

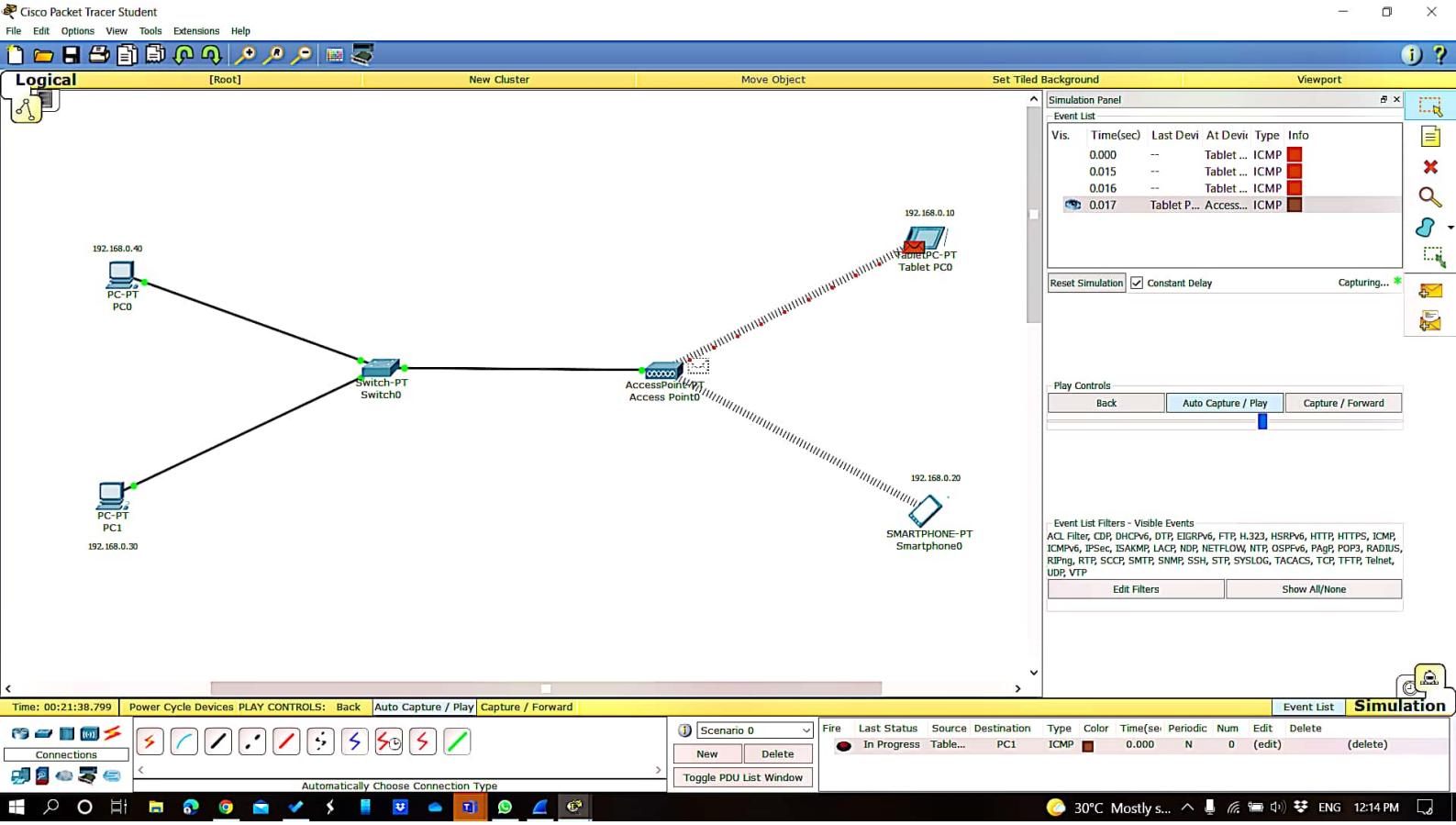
Not recieving packets in wireshark. The issue was solved by starting wireshark before pinging the device so it capture the packages

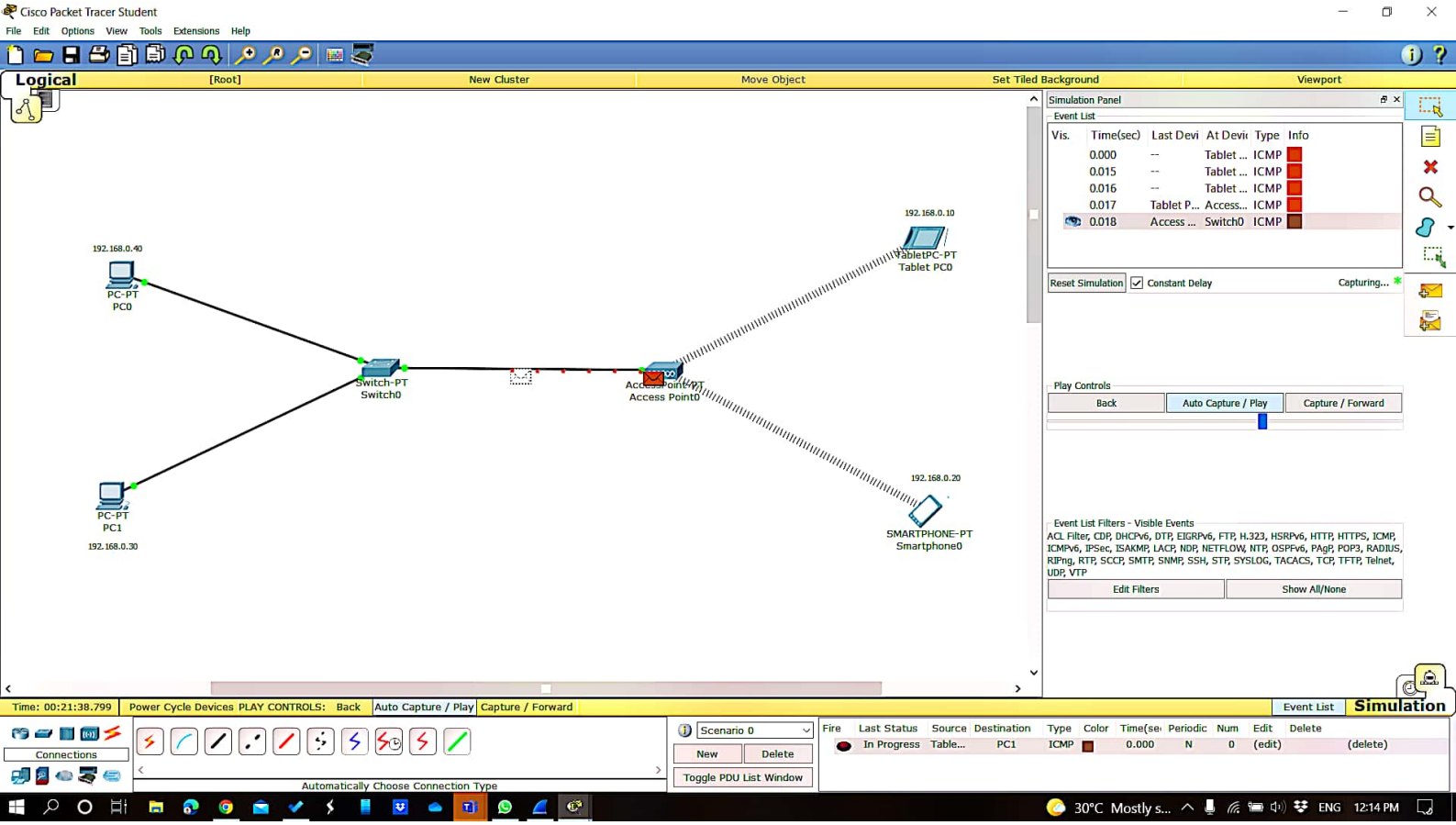
Conclusion

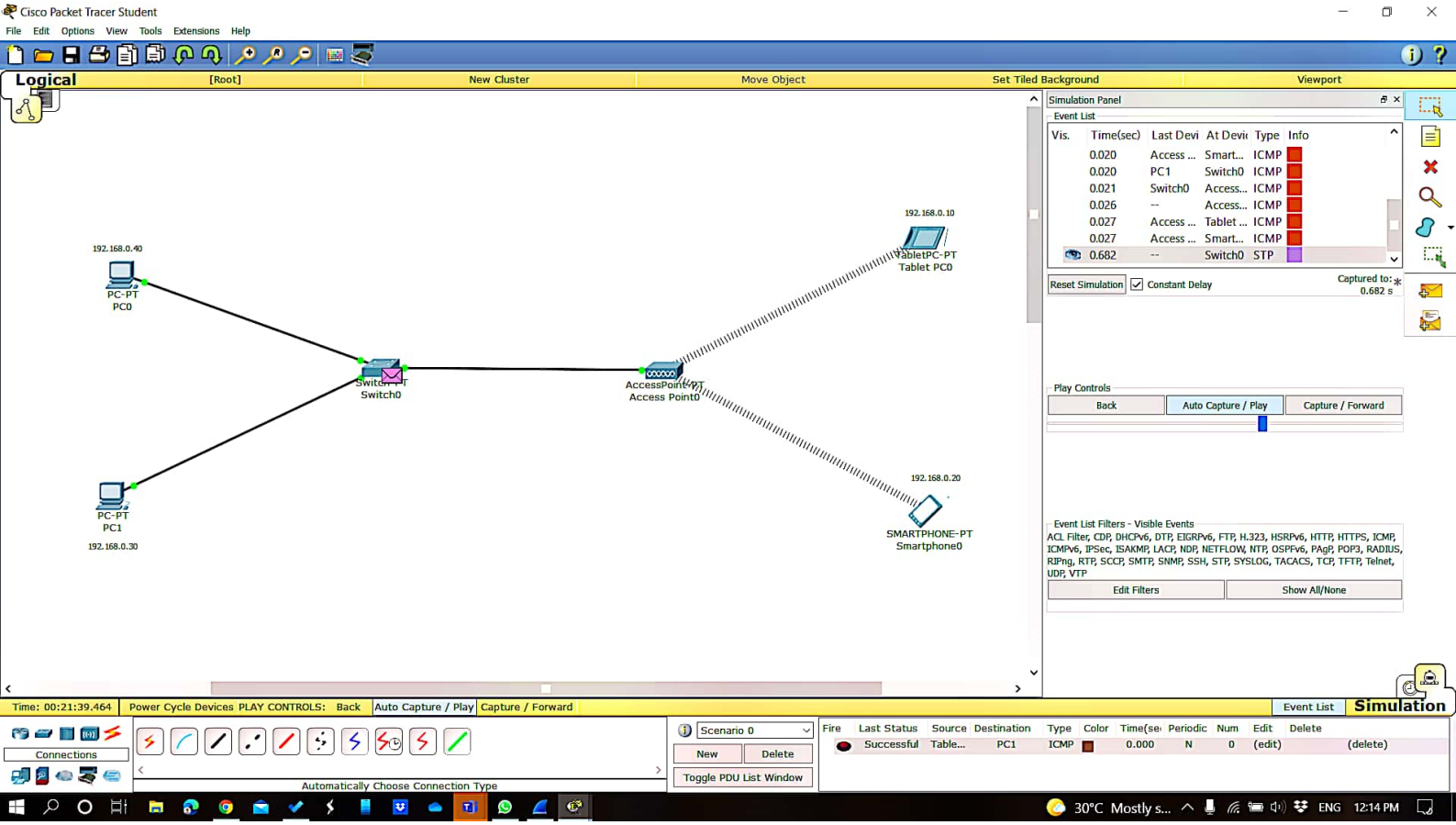
The wired-wireless LAN setup was implemented succecsufully both simulation and real time. The packets were captured in wireshark.

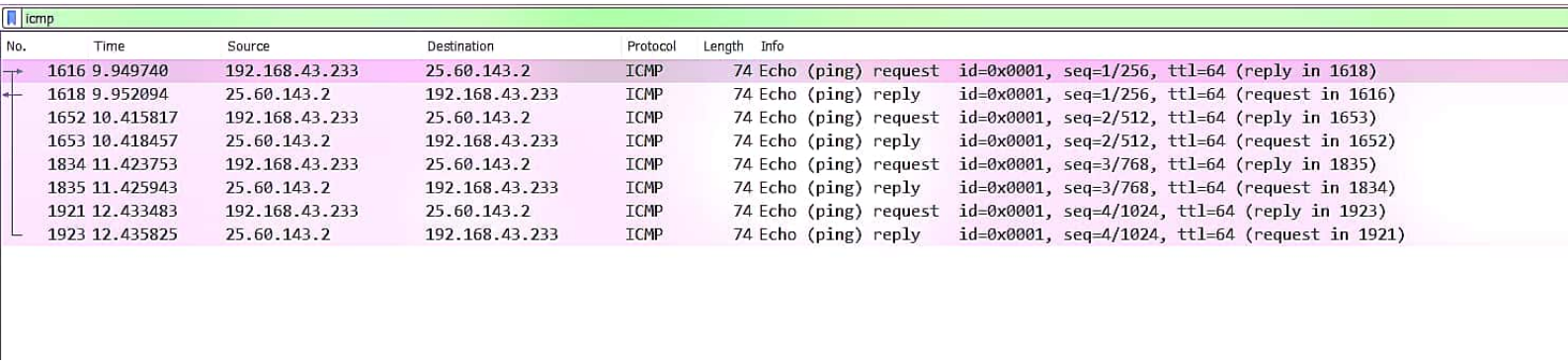
Teacher's Signature


Cisco Packet Tracer Student
File Edit Options View Tools Extensions Help
Logical
[Root]
New Cluster
Move Object
Set Tiled Background
Viewport
192.168.0.40
PC-PT
PC0
PC1
192.168.0.30
PC-PT
PC1
PC1
Physical
Config
Desktop
Custom Interface
Command Prompt
Reply from 192.168.0.20: bytes=32 time=20ms TTL=128
Reply from 192.168.0.20: bytes=32 time=8ms TTL=128
Reply from 192.168.0.20: bytes=32 time=11ms TTL=128
Reply from 192.168.0.20: bytes=32 time=5ms TTL=128
Ping statistics for 192.168.0.20:
Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
Minimum = 5ms, Maximum = 20ms, Average = 11ms
PC>ping 192.168.0.10
Pinging 192.168.0.10 with 32 bytes of data:
Reply from 192.168.0.10: bytes=32 time=11ms TTL=128
Reply from 192.168.0.10: bytes=32 time=11ms TTL=128
Reply from 192.168.0.10: bytes=32 time=13ms TTL=128
Reply from 192.168.0.10: bytes=32 time=17ms TTL=128
Ping statistics for 192.168.0.10:
Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
Minimum = 11ms, Maximum = 17ms, Average = 13ms
PC>
192.168.0.10
TabletPC-PT
Tablet PC0
192.168.0.20
SMARTPHONE-PT
Smartphone0
Time: 00:33:07
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
Periodic
Num
Edit
Delete
30°C Mostly s...
ENG
12:26 PM


Cisco Packet Tracer Student
File Edit Options View Tools Extensions Help
Logical
[Root]
New Cluster
Move Object
Set Tiled Background
Viewport
192.168.0.40
PC-PT
PC0
192.168.0.10
TabletPC-PT
Tablet PC0
Switch-PT
Switch0
AccessPoint-PT
Access Point0
192.168.0.20
SMARTPHONE-PT
Smartphone0
PC-PT
PC1
192.168.0.30
Simulation Panel
Event List
Vis. Time(sec) Last Devi At Devi Type Info
0.000 -- Tablet ... ICMP
0.015 -- Tablet ... ICMP
0.016 -- Tablet ... ICMP
0.017 Tablet P... Access... ICMP
Reset Simulation
Constant Delay
Capturing...
Play Controls
Back
Auto Capture / Play
Capture / Forward
Event List Filters - Visible Events
ACL Filter, CDP, DHCPv6, DTP, EIGRPv6, FTP, H.323, HSRPv6, HTTP, HTTPS, ICMP, ICMPv6, IPSec, ISAKMP, LACP, NDP, NETFLOW, NTP, OSPFv6, PAgP, POP3, RADIUS, RIPng, RTP, SCCP, SMTP, SNMP, SSH, STP, SYSLOG, TACACS, TCP, TFTP, Telnet, UDP, VTP
Edit Filters
Show All/None
Time: 00:21:38.799
Power Cycle Devices PLAY CONTROLS: Back
Auto Capture / Play
Capture / Forward
Event List
Simulation
Connections
Automatically Choose Connection Type
Scenario 0
New
Delete
Toggle PDU List Window
Fire Last Status Source Destination Type Color Time(se Periodic Num Edit Delete
In Progress Table... PC1 ICMP 0.000 N 0 (edit) (delete)
30°C Mostly s...
ENG
12:14 PM


Cisco Packet Tracer Student
File Edit Options View Tools Extensions Help
Logical
[Root]
New Cluster
Move Object
Set Tiled Background
Viewport
192.168.0.40
PC-PT
PC0
Switch-PT
Switch0
Access Point-PT
Access Point0
192.168.0.10
TabletPC-PT
Tablet PC0
192.168.0.20
SMARTPHONE-PT
Smartphone0
PC-PT
PC1
192.168.0.30
Simulation Panel
Event List
Vis. Time(sec) Last Devi At Devi Type Info
0.000 -- Tablet ... ICMP
0.015 -- Tablet ... ICMP
0.016 -- Tablet ... ICMP
0.017 Tablet P... Access... ICMP
0.018 Access ... Switch0 ICMP
Reset Simulation
Constant Delay
Capturing...
Play Controls
Back
Auto Capture / Play
Capture / Forward
Event List Filters - Visible Events
ACL Filter, CDP, DHCPv6, DTP, EIGRPv6, FTP, H.323, HSRPv6, HTTP, HTTPS, ICMP, ICMPv6, IPSec, ISAKMP, LACP, NDP, NETFLOW, NTP, OSPFv6, PAgP, POP3, RADIUS, RIPng, RTP, SCCP, SMTP, SNMP, SSH, STP, SYSLOG, TACACS, TCP, TFTP, Telnet, UDP, VTP
Edit Filters
Show All/None
Time: 00:21:38.799
Power Cycle Devices PLAY CONTROLS: Back
Auto Capture / Play
Capture / Forward
Event List
Simulation
Connections
Automatically Choose Connection Type
Scenario 0
New
Delete
Toggle PDU List Window
Fire Last Status Source Destination Type Color Time(se Periodic Num Edit Delete
In Progress Table... PC1 ICMP 0.000 N 0 (edit) (delete)
30°C Mostly s...
ENG
12:14 PM


Cisco Packet Tracer Student
File Edit Options View Tools Extensions Help
Logical
[Root]
New Cluster
Move Object
Set Tiled Background
Viewport
192.168.0.40
PC-PT
PC0
192.168.0.10
TabletPC-PT
Tablet PC0
Switch-PT
Switch0
AccessPoint-PT
Access Point0
PC-PT
PC1
192.168.0.30
192.168.0.20
SMARTPHONE-PT
Smartphone0
Simulation Panel
Event List
Vis. Time(sec) Last Devi At Devi Type Info
0.020 Access ... Smart... ICMP
0.020 PC1 Switch0 ICMP
0.021 Switch0 Access... ICMP
0.026 -- Access... ICMP
0.027 Access ... Tablet ... ICMP
0.027 Access ... Smart... ICMP
0.682 -- Switch0 STP
Reset Simulation
Constant Delay
Captured to: 0.682 s
Play Controls
Back
Auto Capture / Play
Capture / Forward
Event List Filters - Visible Events
ACL Filter, CDP, DHCPv6, DTP, EIGRPv6, FTP, H.323, HSRPv6, HTTP, HTTPS, ICMP, ICMPv6, IPSec, ISAKMP, LACP, NDP, NETFLOW, NTP, OSPFv6, PAgP, POP3, RADIUS, RIPng, RTP, SCCP, SMTP, SNMP, SSH, STP, SYSLOG, TACACS, TCP, TFTP, Telnet, UDP, VTP
Edit Filters
Show All/None
Time: 00:21:39.464
Power Cycle Devices
PLAY CONTROLS: Back
Auto Capture / Play
Capture / Forward
Event List
Simulation
Connections
Automatically Choose Connection Type
Scenario 0
New
Delete
Toggle PDU List Window
Fire Last Status Source Destination Type Color Time(se Periodic Num Edit Delete
Successful Table... PC1 ICMP 0.000 N 0 (edit) (delete)
30°C Mostly s...
ENG
12:14 PM



icmp

No.	Time	Source	Destination	Protocol	Length	Info
1616	9.949740	192.168.43.233	25.60.143.2	ICMP	74	Echo (ping) request id=0x0001, seq=1/256, ttl=64 (reply in 1618)
1618	9.952094	25.60.143.2	192.168.43.233	ICMP	74	Echo (ping) reply id=0x0001, seq=1/256, ttl=64 (request in 1616)
1652	10.415817	192.168.43.233	25.60.143.2	ICMP	74	Echo (ping) request id=0x0001, seq=2/512, ttl=64 (reply in 1653)
1653	10.418457	25.60.143.2	192.168.43.233	ICMP	74	Echo (ping) reply id=0x0001, seq=2/512, ttl=64 (request in 1652)
1834	11.423753	192.168.43.233	25.60.143.2	ICMP	74	Echo (ping) request id=0x0001, seq=3/768, ttl=64 (reply in 1835)
1835	11.425943	25.60.143.2	192.168.43.233	ICMP	74	Echo (ping) reply id=0x0001, seq=3/768, ttl=64 (request in 1834)
1921	12.433483	192.168.43.233	25.60.143.2	ICMP	74	Echo (ping) request id=0x0001, seq=4/1024, ttl=64 (reply in 1923)
1923	12.435825	25.60.143.2	192.168.43.233	ICMP	74	Echo (ping) reply id=0x0001, seq=4/1024, ttl=64 (request in 1921)