

Date: 07/08/2024

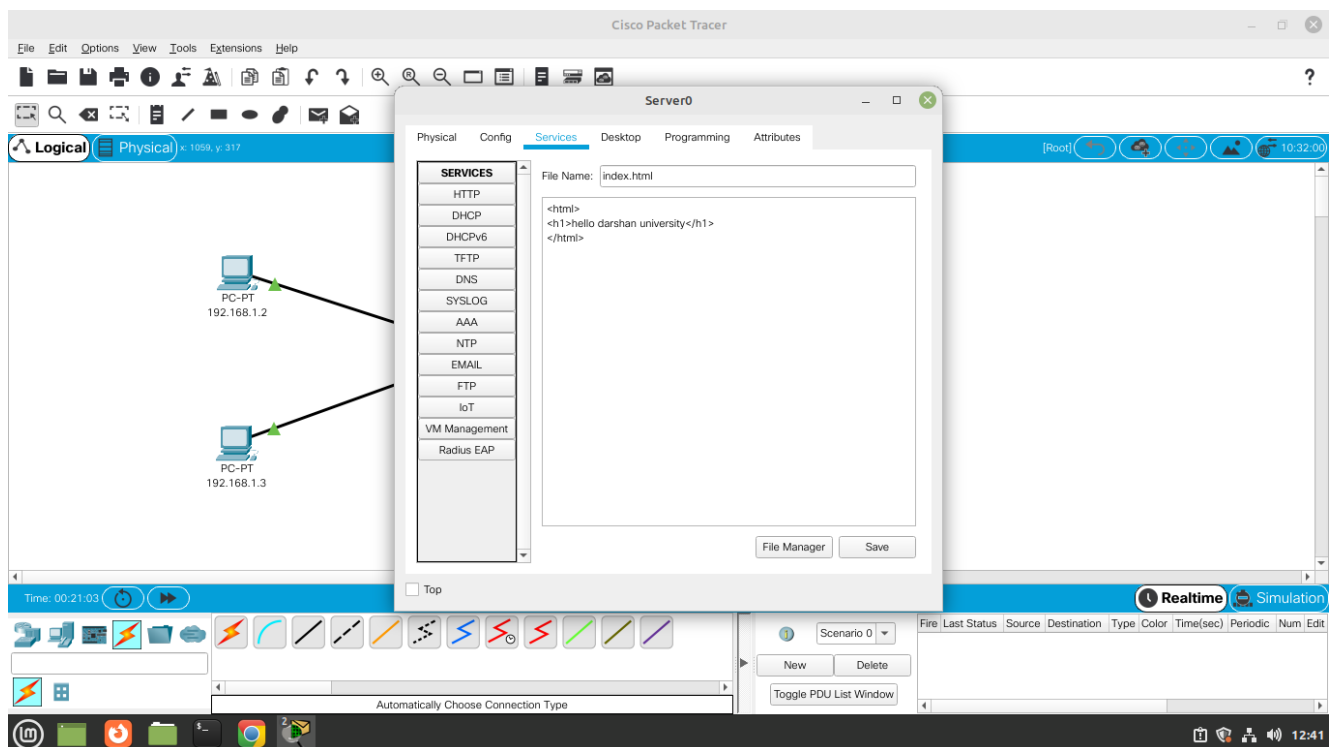
## Lab Practical #06:

Study the application layer protocol DNS, DHCP, FTP.

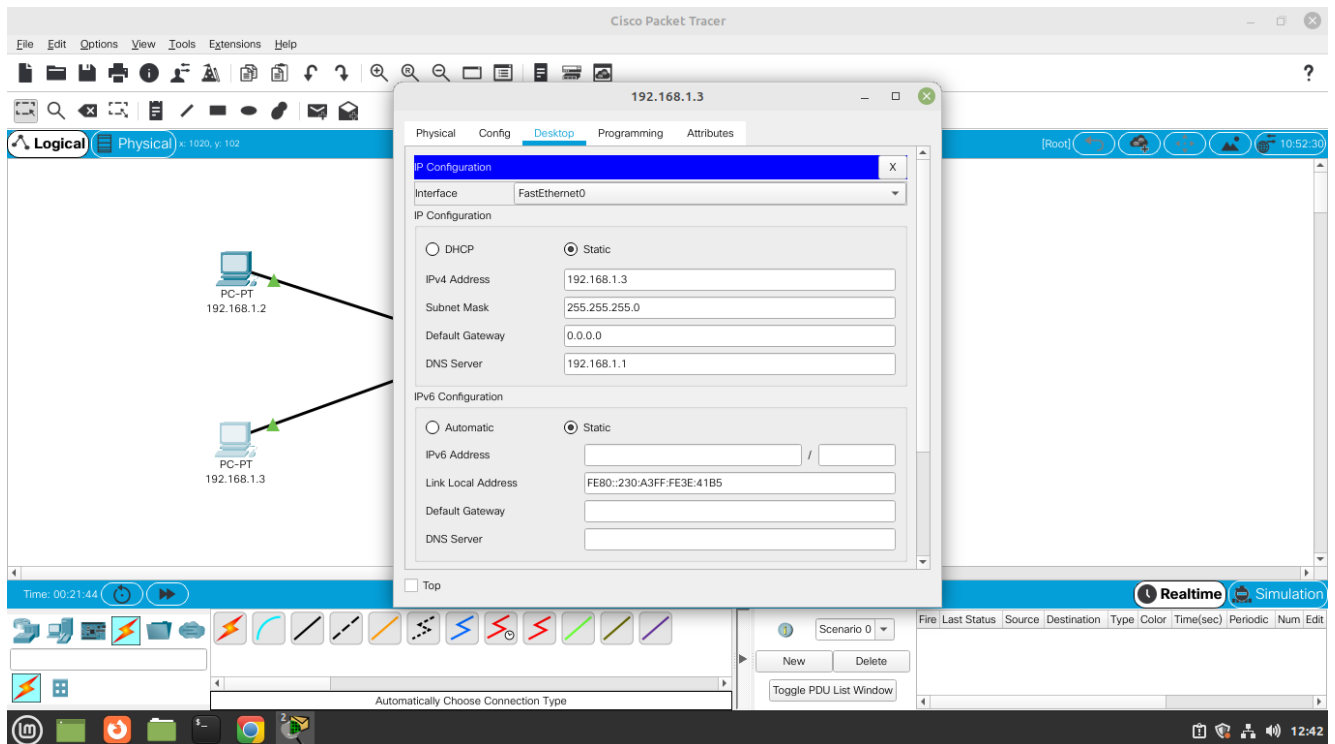
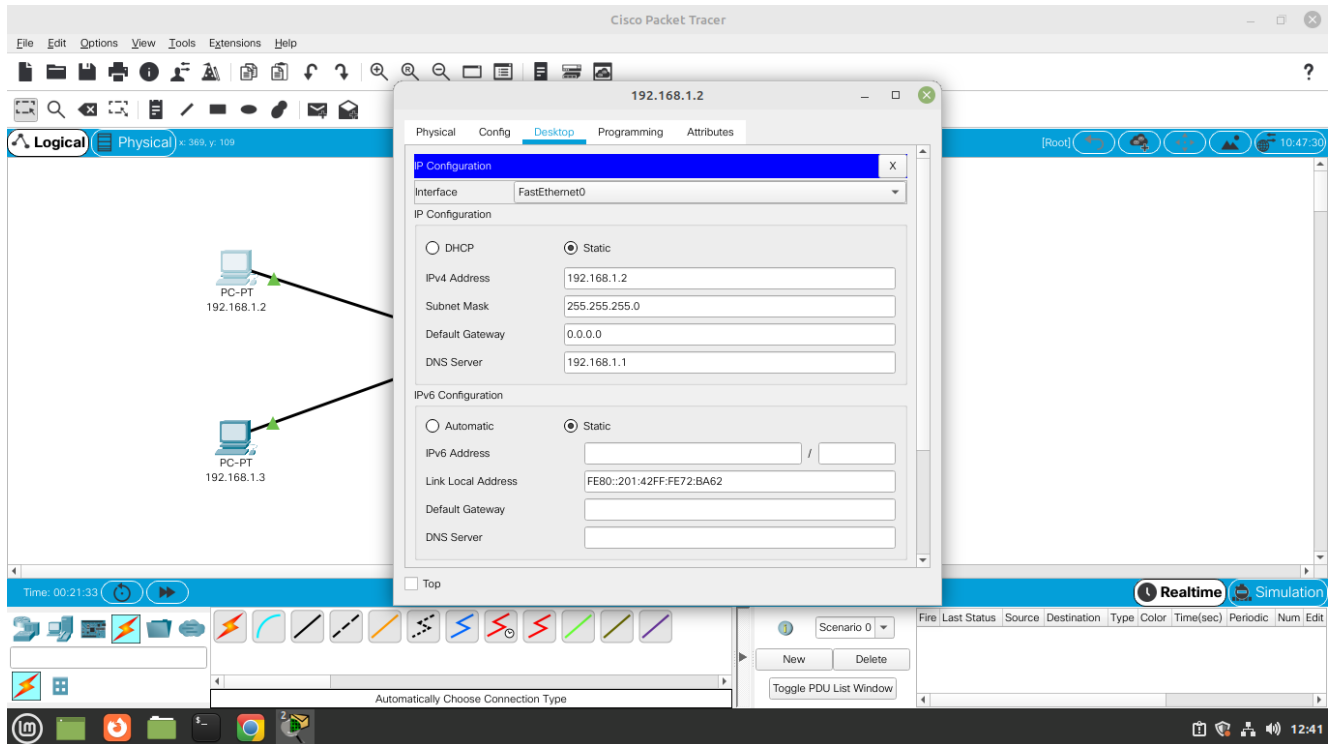
## Practical Assignment #06:

1. Implement the application layer protocol DNS, DHCP, and FTP. Also check connectivity between them using ping command or PDU utility.

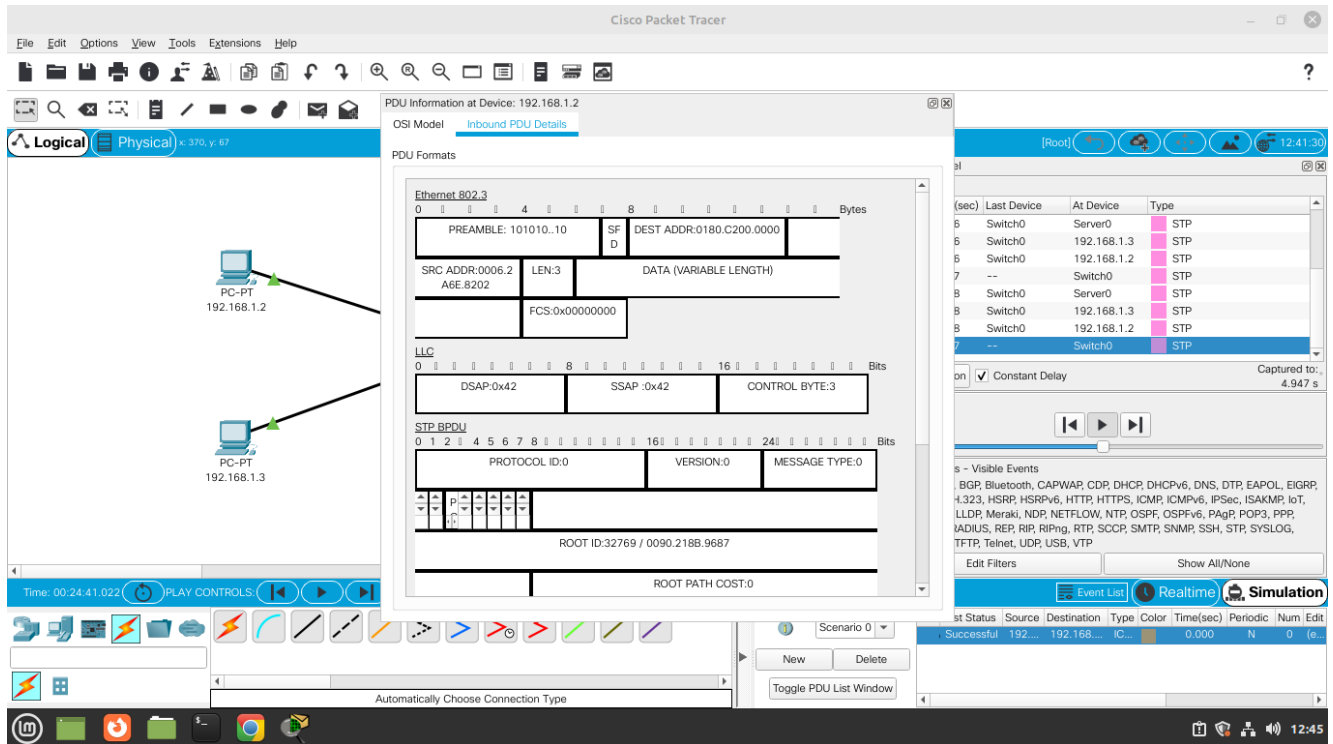
### 1. DNS:



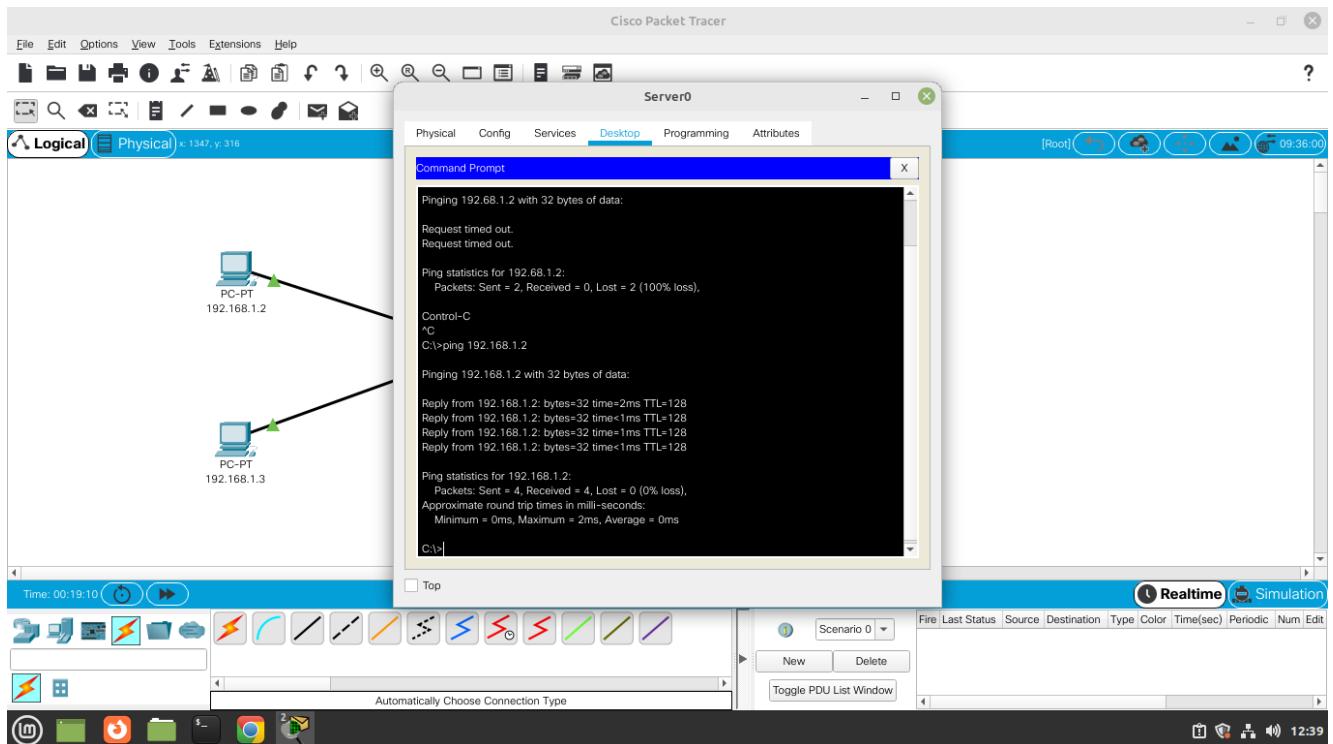
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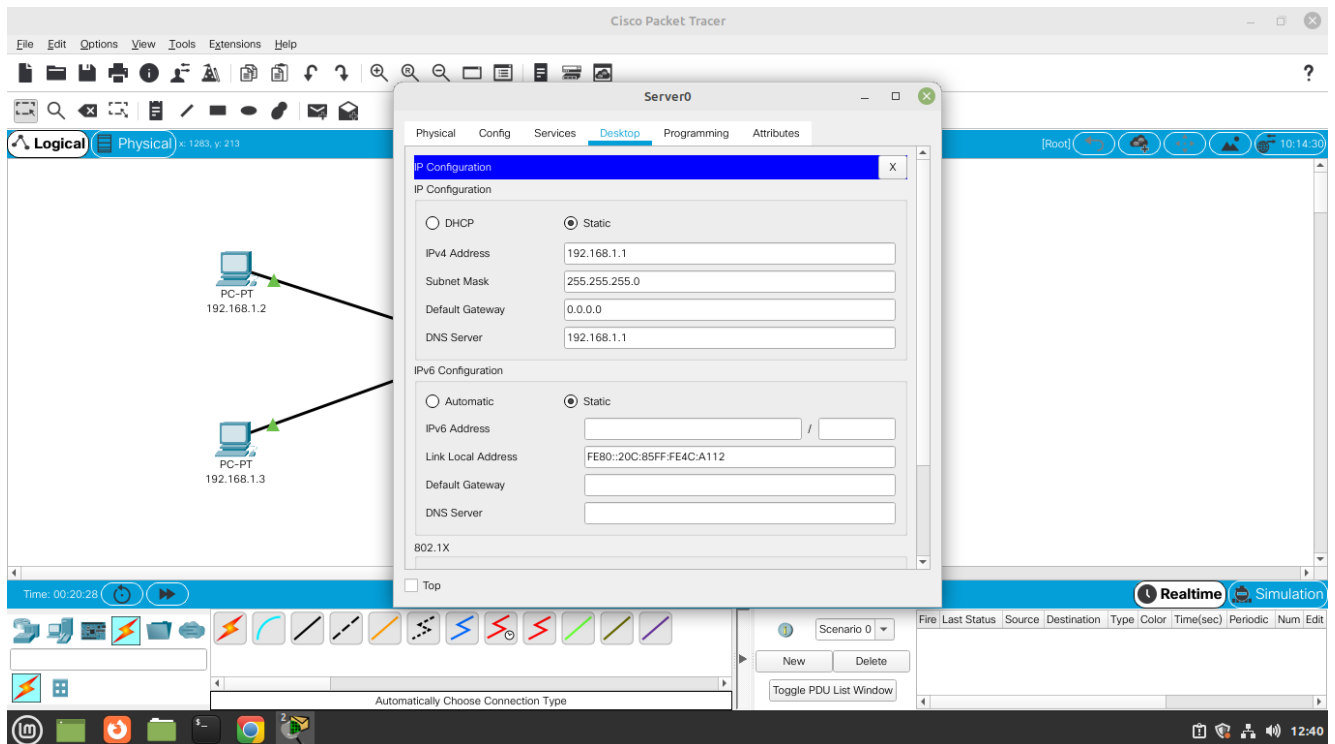
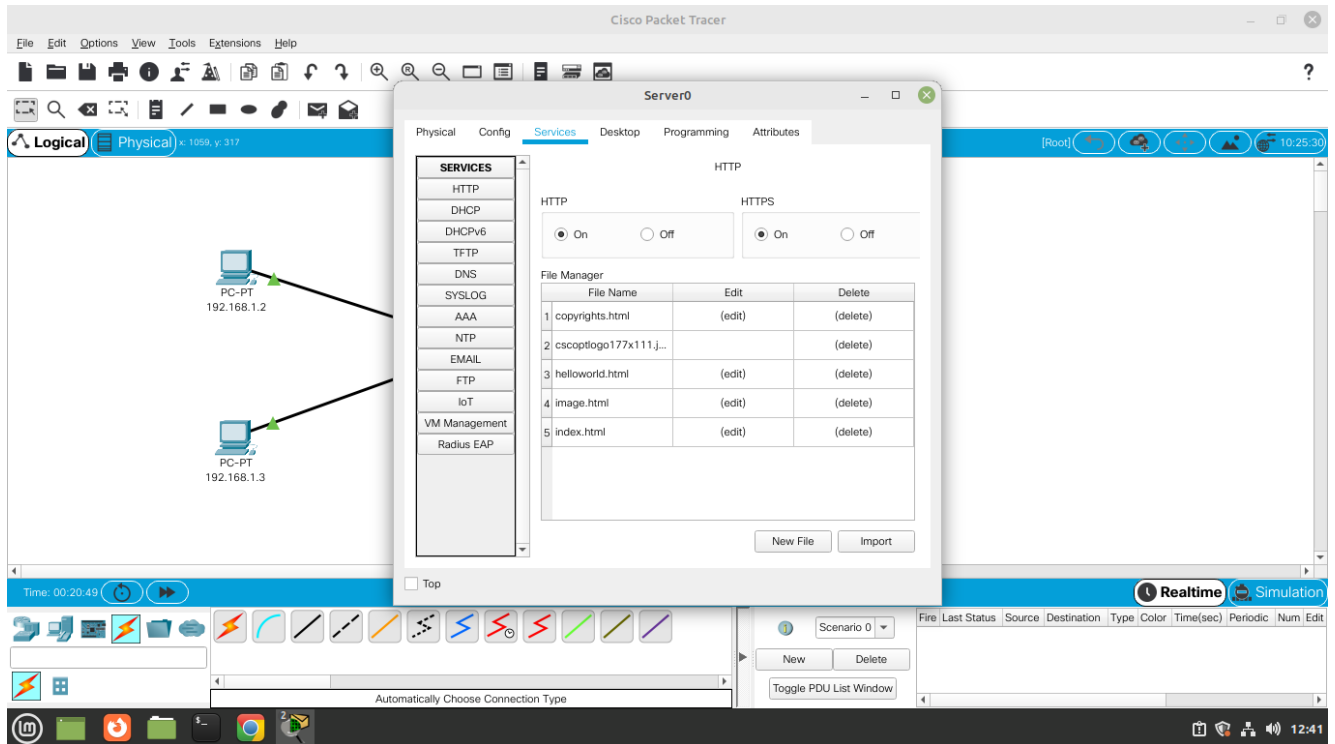


This screenshot shows the Cisco Packet Tracer interface with the PDU Information window open for device 192.168.1.2. The window displays the OSI Model and PDU Formats for Ethernet II, LLC, and STP RPDUs. The Ethernet II format shows a preamble, source and destination MAC addresses, length, and data. The LLC format shows DSAP, SSAP, and control bytes. The STP RPDUs show protocol ID, version, message type, and root ID. The background shows a network topology with two PCs connected to a switch.

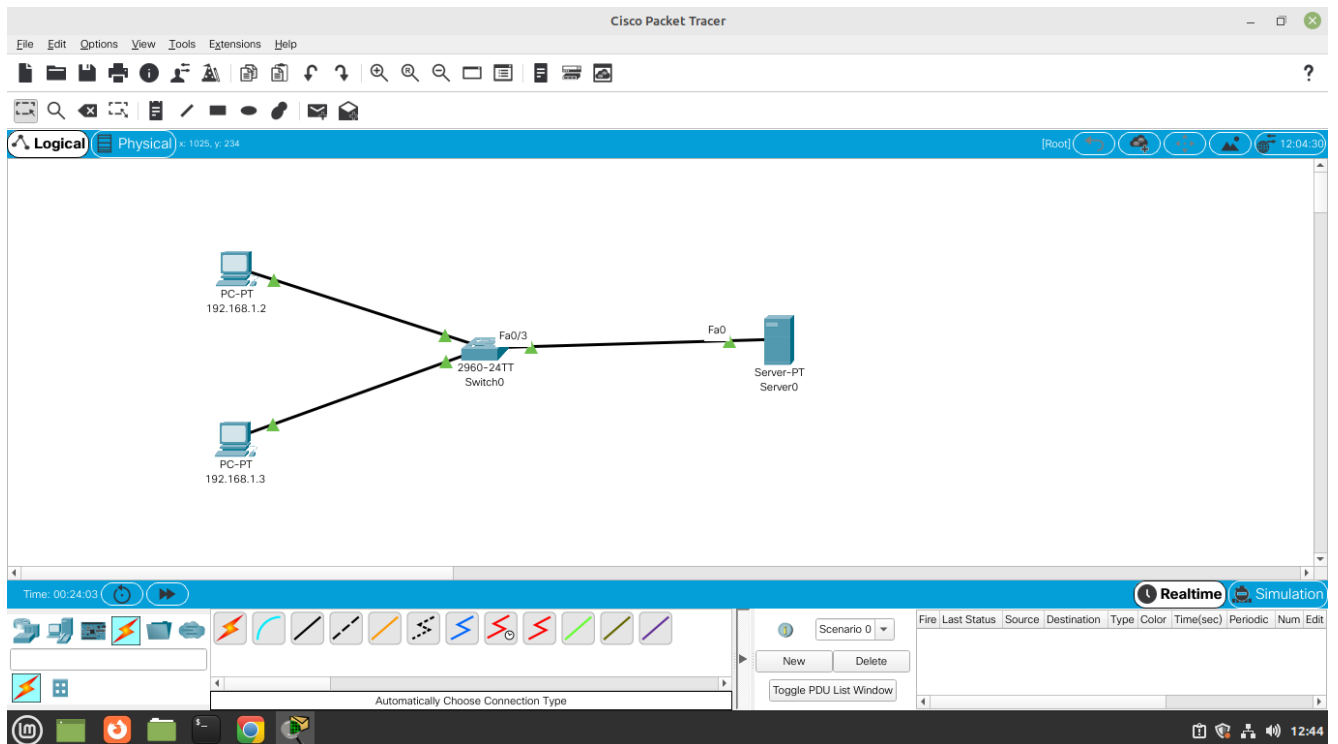
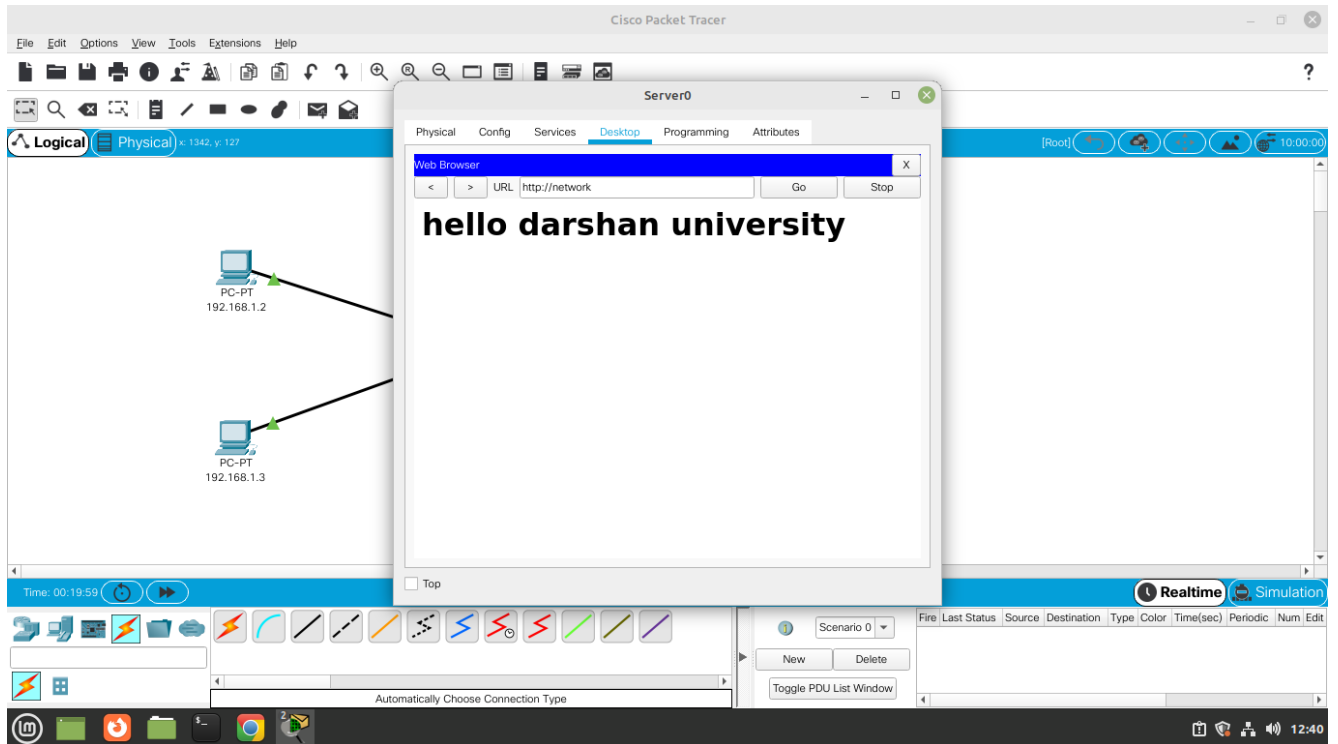


This screenshot shows the Cisco Packet Tracer interface with the Server0 Command Prompt window open. The prompt displays the results of a ping command to 192.168.1.2. The output shows that the ping was successful, with 4 packets sent, 4 received, and 0% loss. The background shows the same network topology as the first screenshot.

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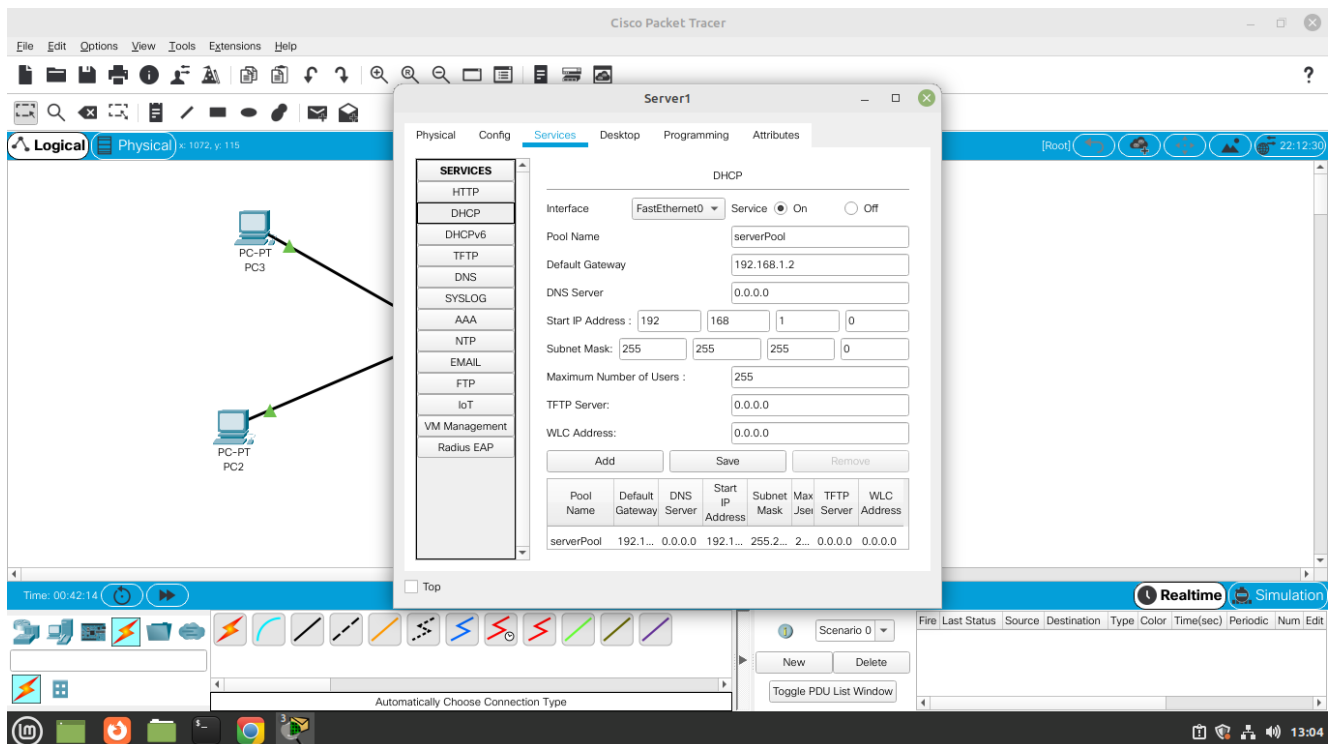
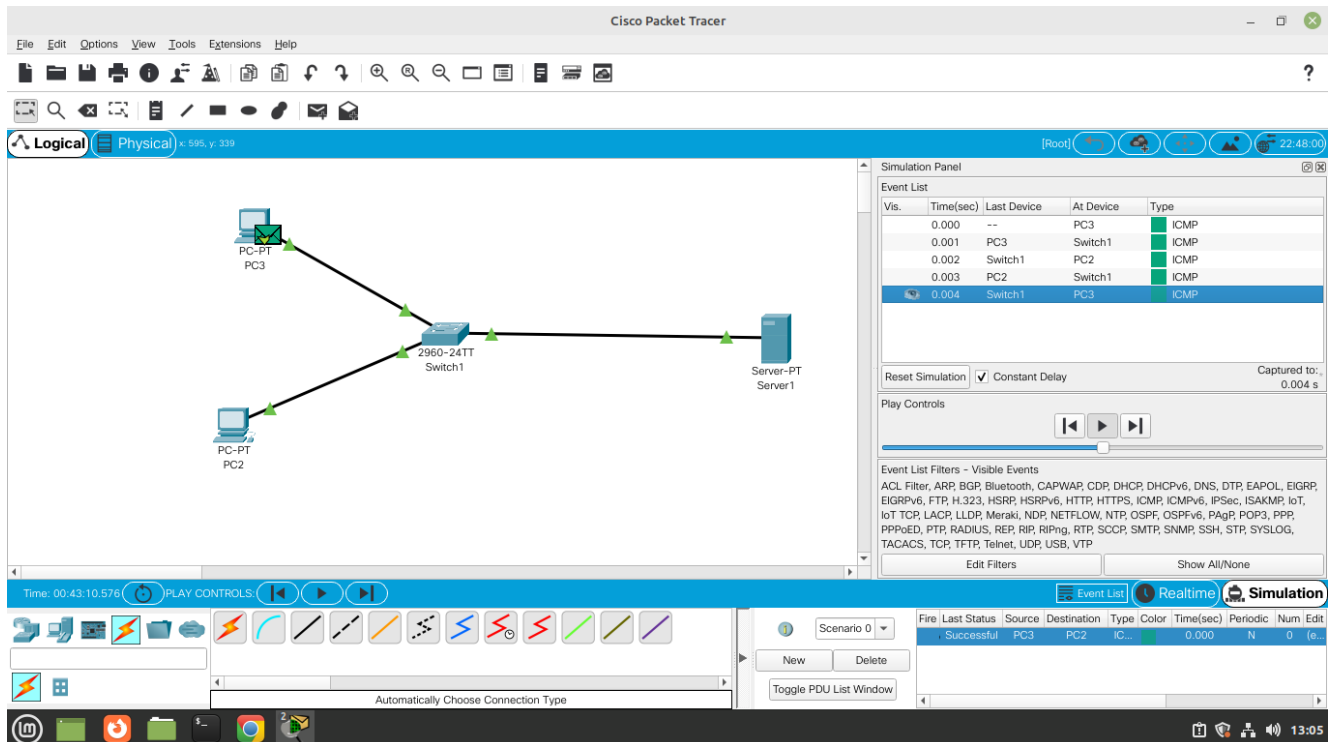


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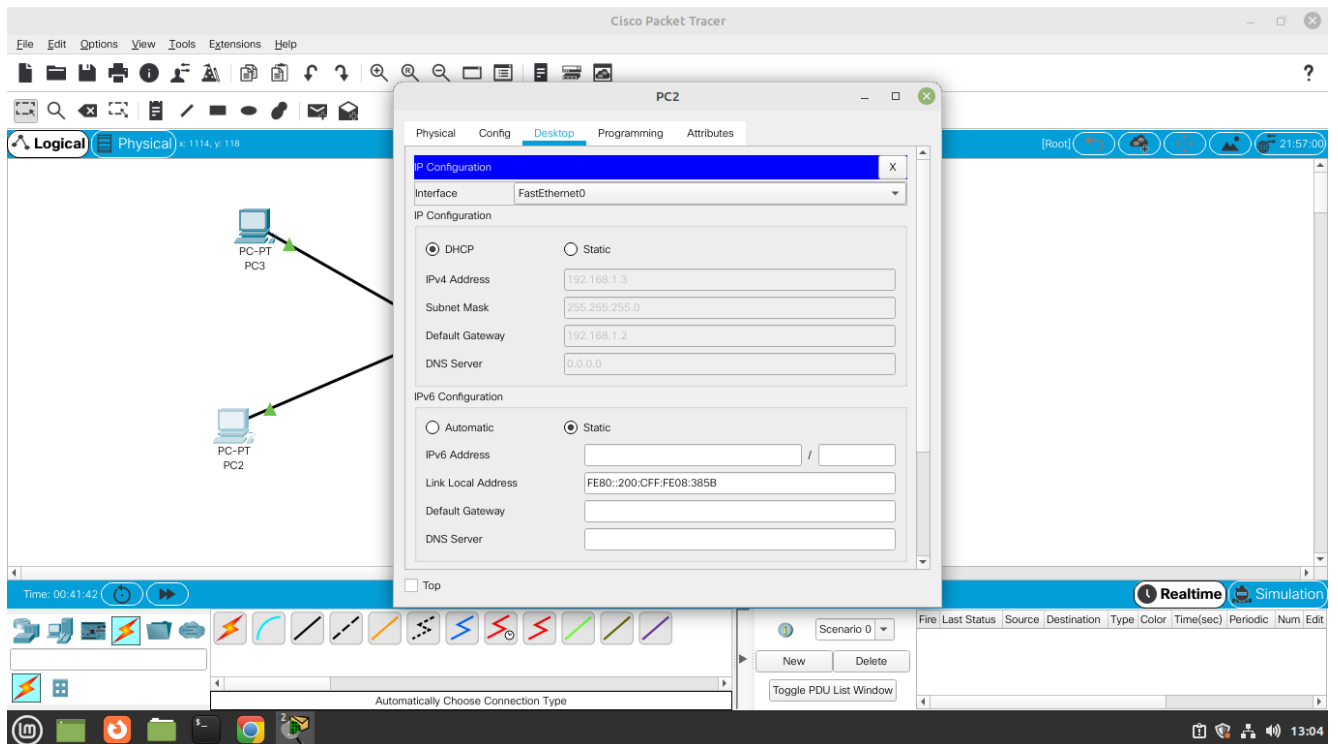
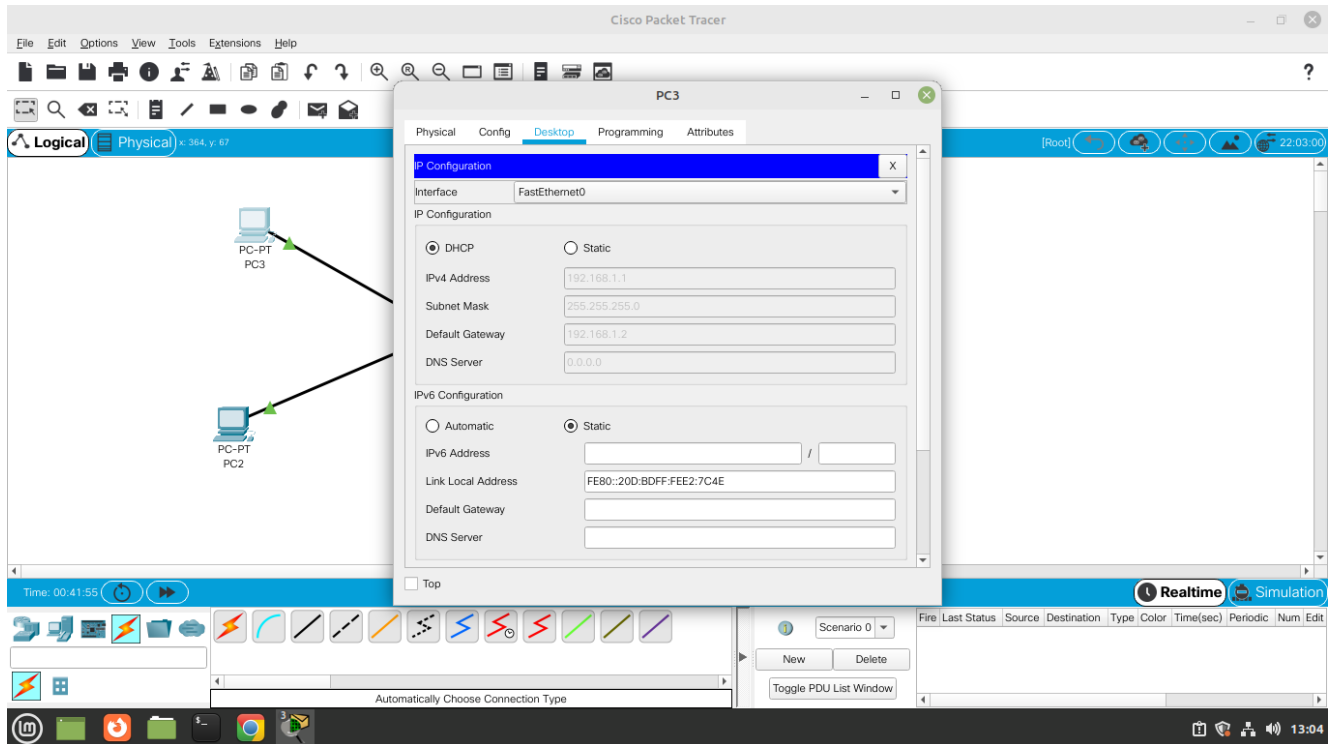


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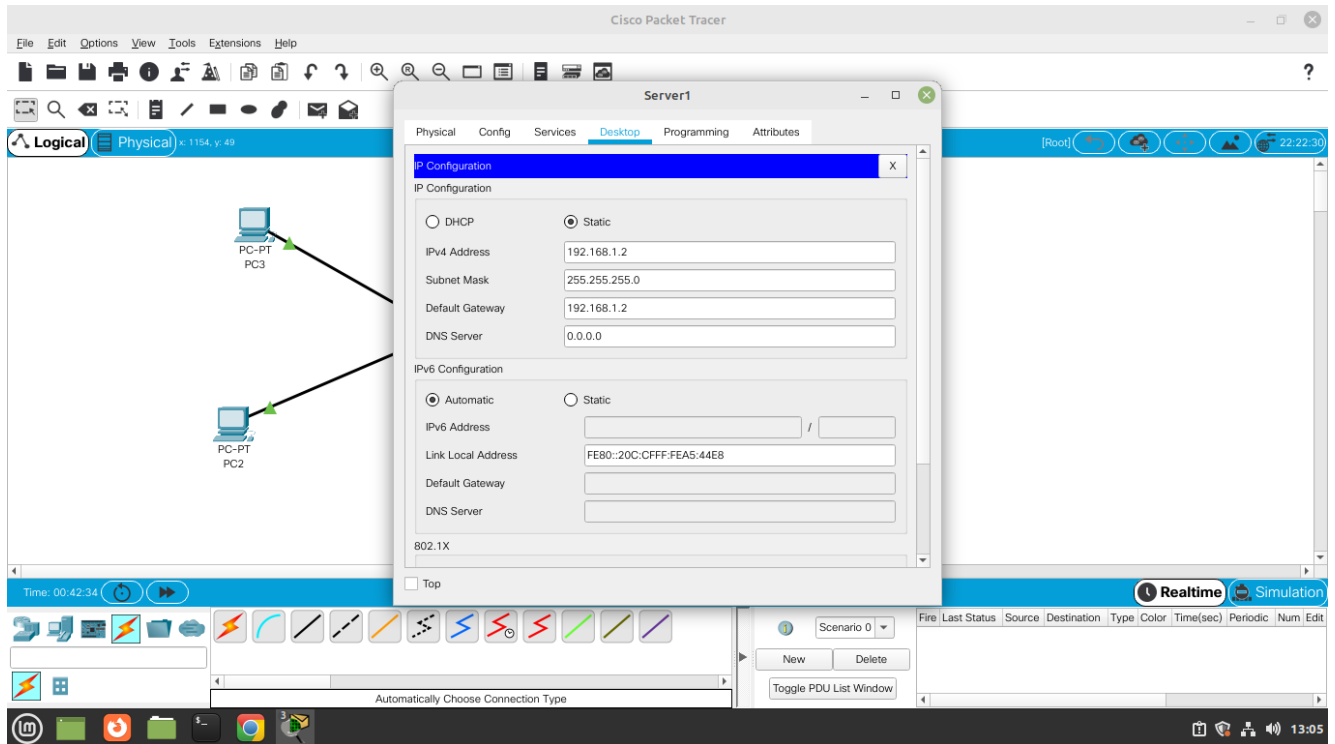
## 2. DHCP :



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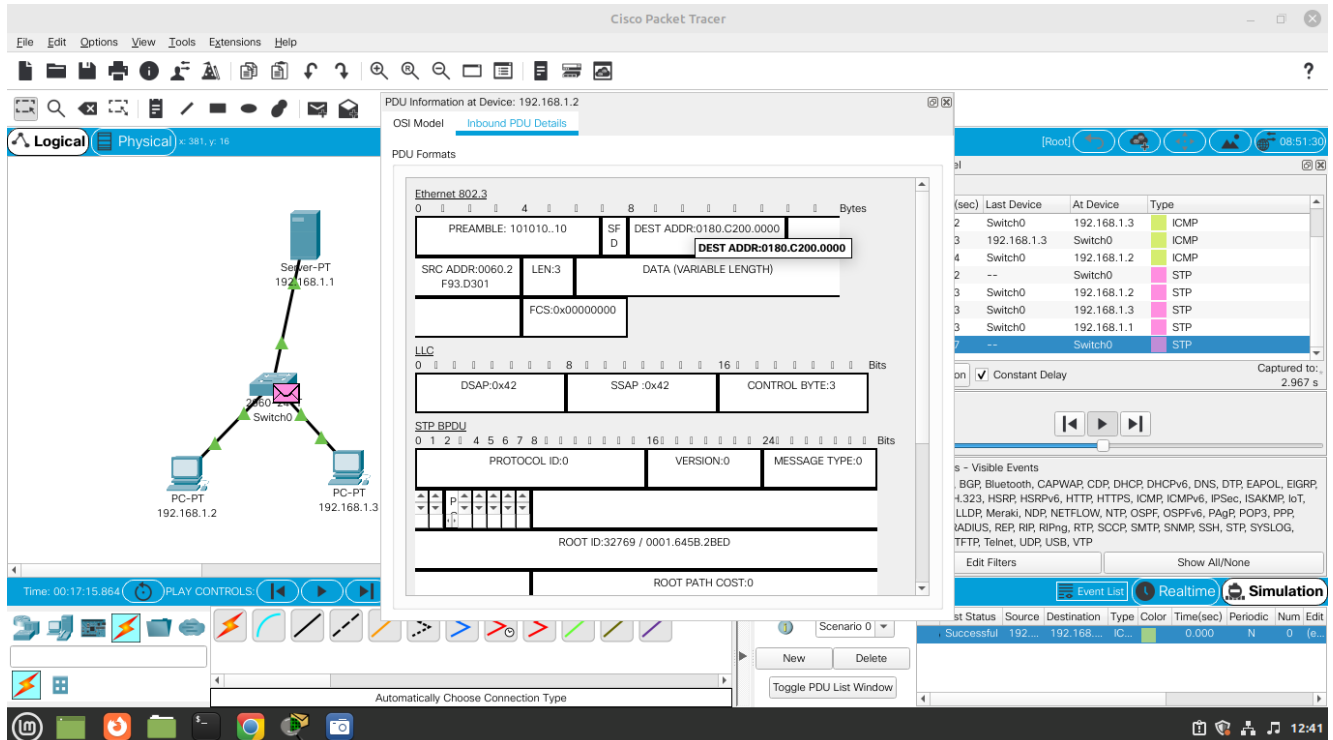
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### 3. FTP :



**PDU Information at Device: 192.168.1.2**

OSI Model: Inbound PDU Details

PDU Formats

**Ethernet II**

Field	Value
PREAMBLE	101010...10
SF D	0
DEST ADDR	0180.C200.0000
SRC ADDR	0060.2F93.D301
LEN	3
DATA (VARIABLE LENGTH)	
FCS	0x00000000

**LLC**

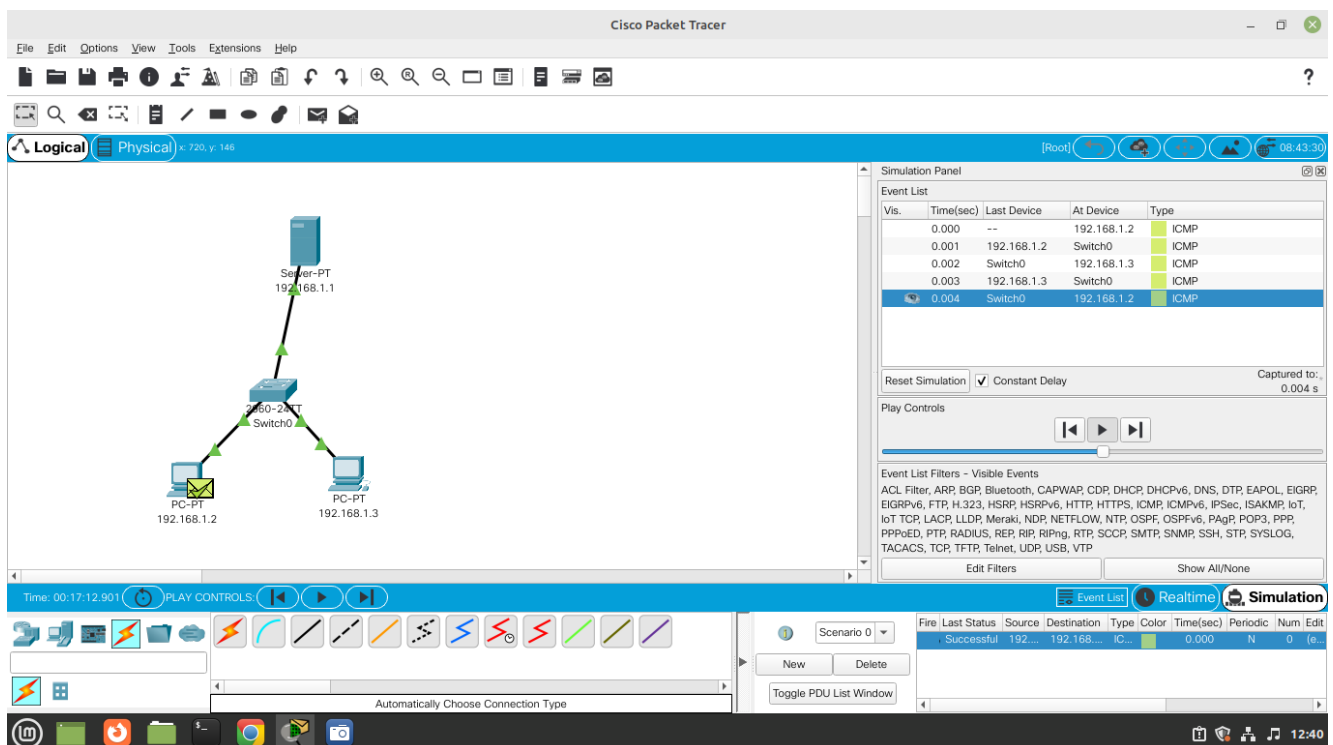
Field	Value
DSAP	0x42
SSAP	0x42
CONTROL BYTE	3

**STP BPDU**

Field	Value
PROTOCOL ID	0
VERSION	0
MESSAGE TYPE	0
ROOT ID	32769 / 0001.645B.2BED
ROOT PATH COST	0

Event List:

(sec)	Last Device	At Device	Type
2	Switch0	192.168.1.3	ICMP
3	192.168.1.3	Switch0	ICMP
4	Switch0	192.168.1.2	ICMP
4	--	Switch0	STP
3	Switch0	192.168.1.2	STP
3	Switch0	192.168.1.3	STP
3	Switch0	192.168.1.1	STP
7	--	Switch0	STP



**Simulation Panel**

Event List

Vis.	Time(sec)	Last Device	At Device	Type
	0.000	--	192.168.1.2	ICMP
	0.001	192.168.1.2	Switch0	ICMP
	0.002	Switch0	192.168.1.3	ICMP
	0.003	192.168.1.3	Switch0	ICMP
	0.004	Switch0	192.168.1.2	ICMP

Reset Simulation: ☒ Constant Delay

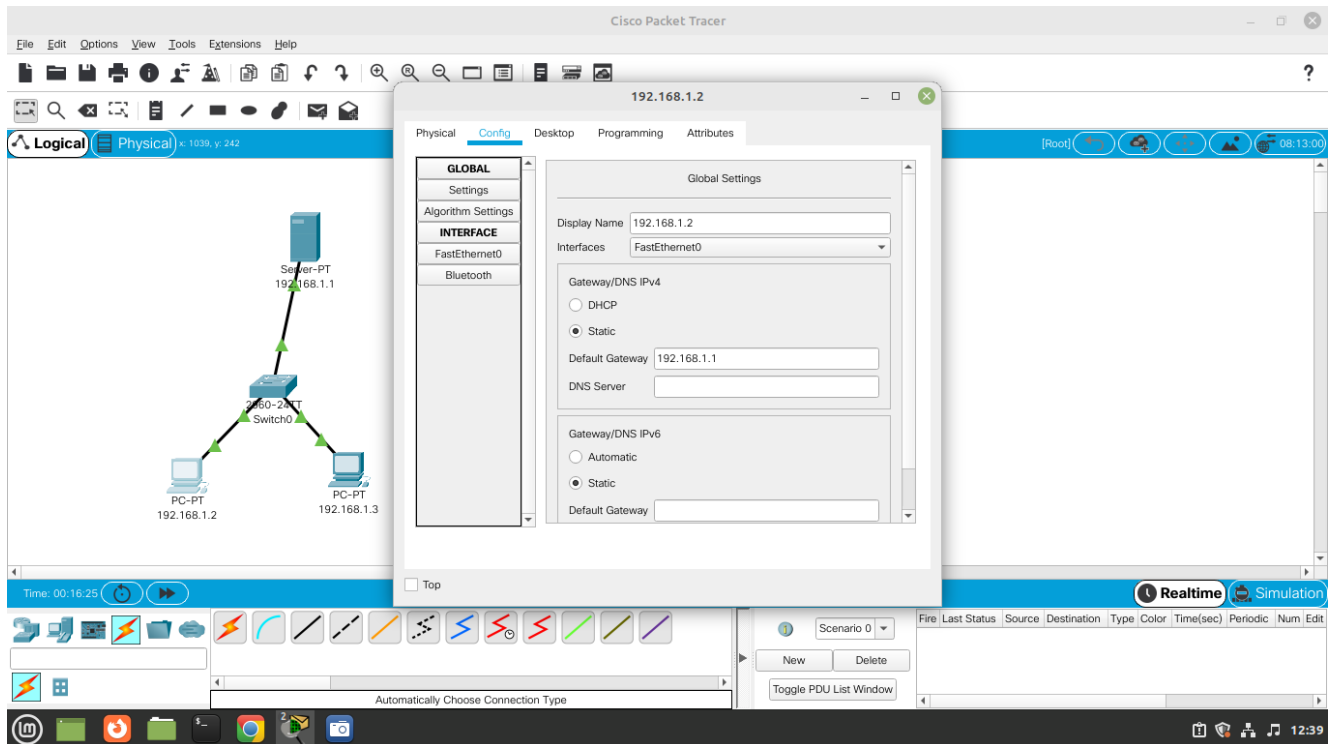
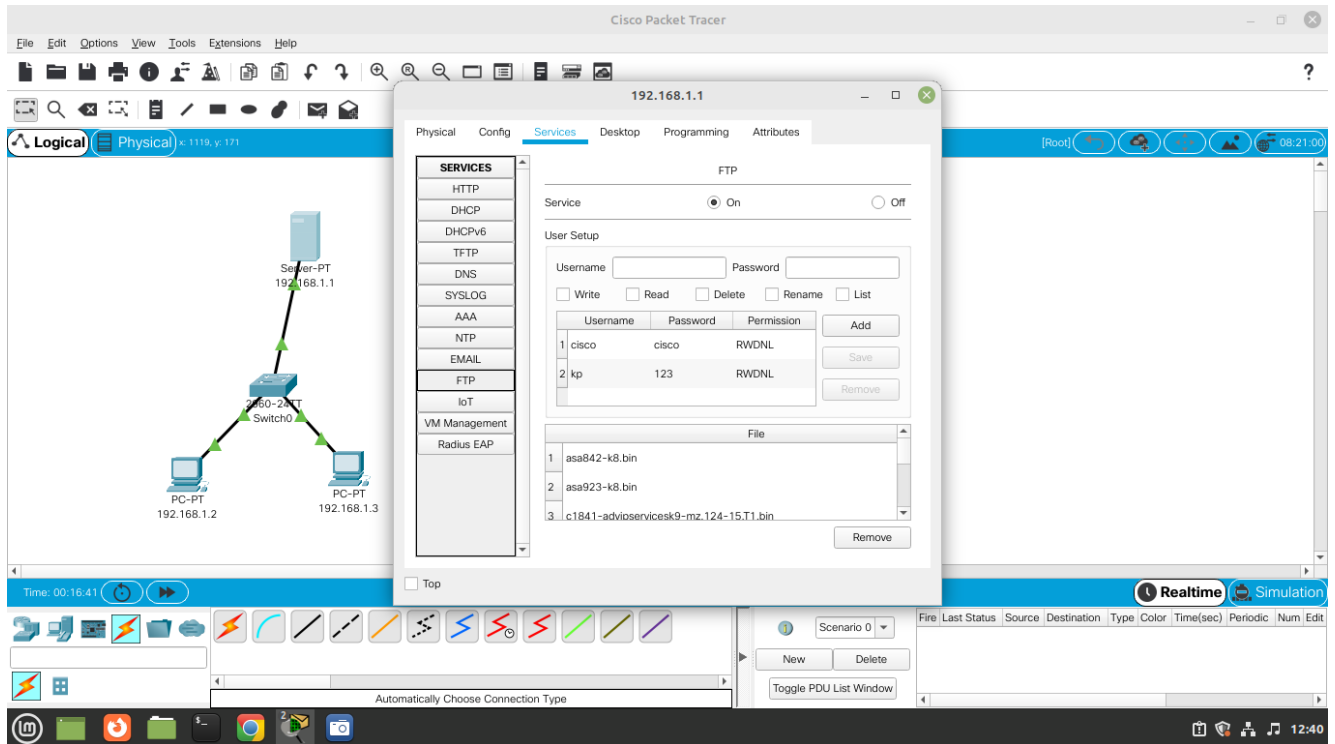
Captured to: 0.004 s

Play Controls

Event List Filters - Visible Events

ACL Filter, ARP, BGP, Bluetooth, CAPWAP, CDP, DHCP, DHCPv6, DNS, DTP, EAPOL, EIGRP, EIGRPv6, FTP, H.323, HSRP, HSRPv6, HTTP, HTTPS, ICMP, ICMPv6, IPSec, ISAKMP, IoT, IoT TCP, LACP, LLDP, Meraki, NDP, NETFLOW, NTP, OSPF, OSPFv6, PAgP, POP3, PPP, PPPoE, PTR, RADIUS, REP, RIP, RIPng, RTP, SCCP, SMTP, SNMP, SSH, STP, SYSLOG, TACACS, TCP, TFTP, Telnet, UDP, USB, VTP

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