

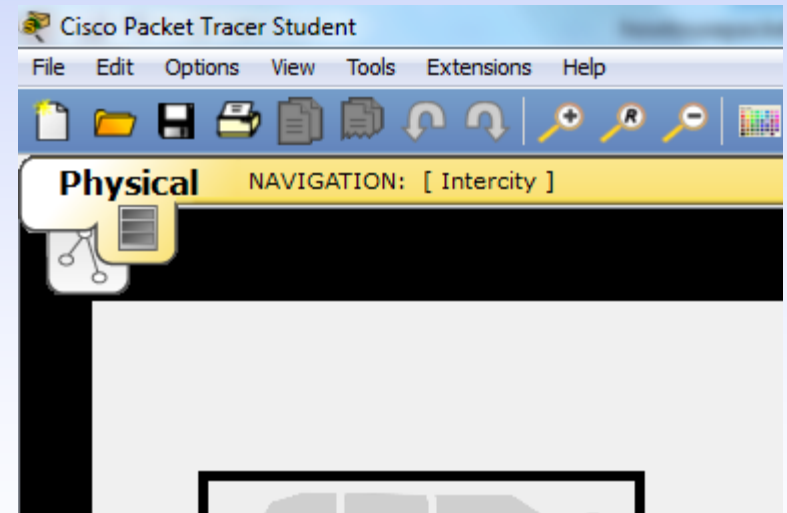
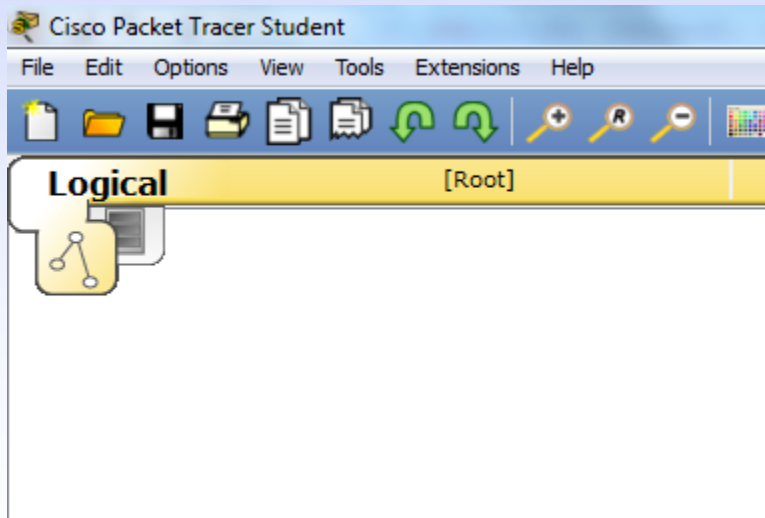
How to Use Packet Tracer

What is Packet Tracer

- Packet Tracer is a program used to illustrate how computer networks work

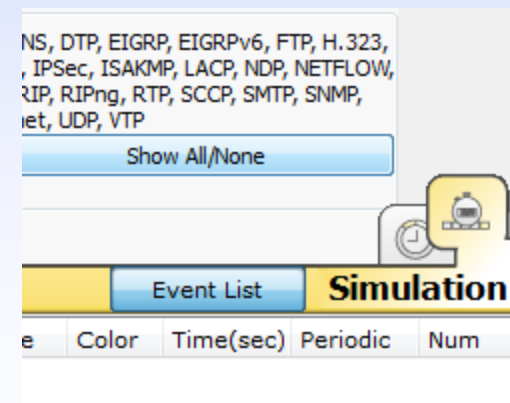
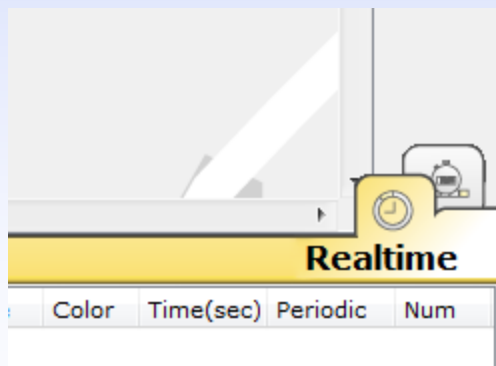
Packet Tracer has two different views

- Logical Workspace
- Physical Workspace



Packet Tracer also has two modes of operation

- Realtime Mode
- Simulation Mode



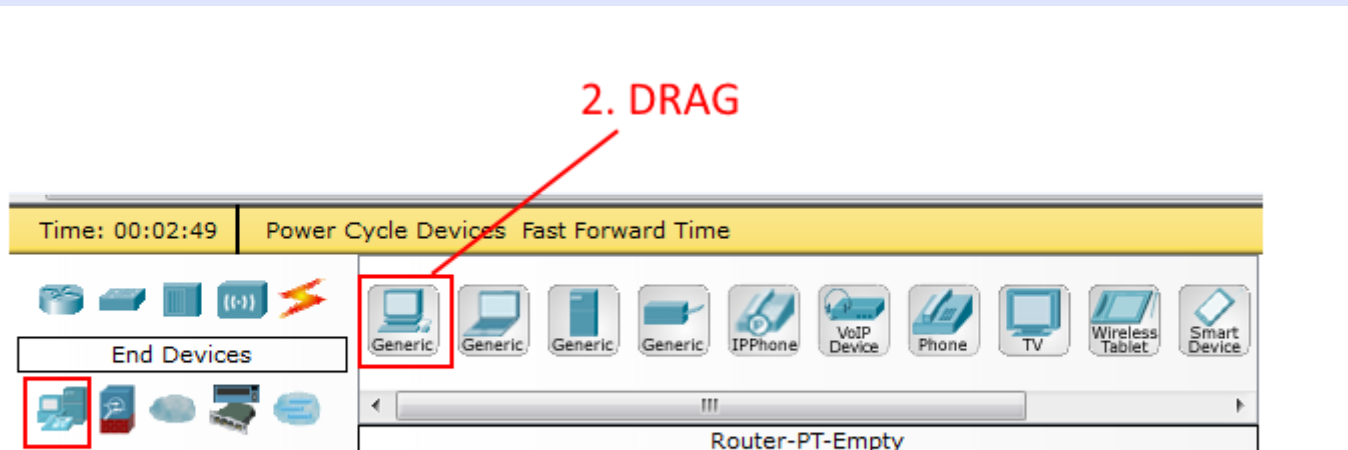
Sample Network Simulation

- Let's create a sample network to see how Packet Tracer simulates a network

Sample Network Simulation

To add a PC onto the workspace:

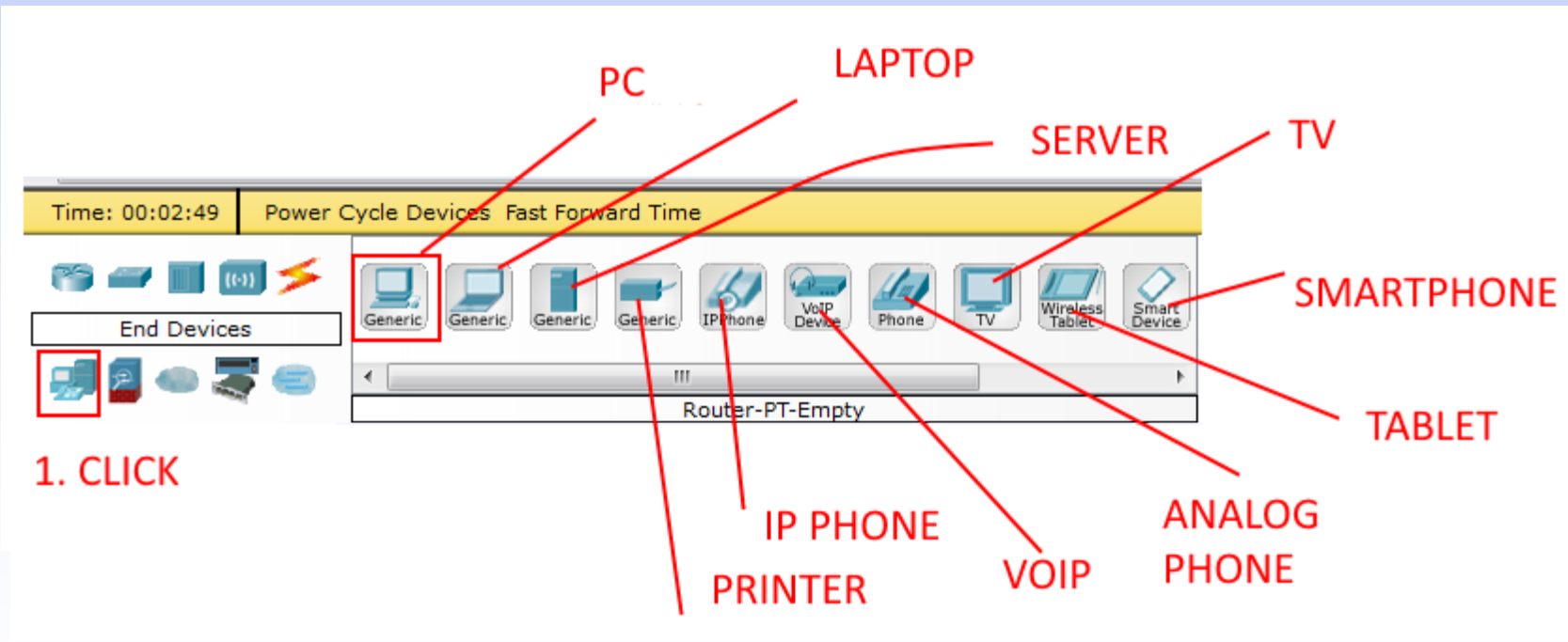
- Select End Devices
- Drag [Generic] onto workspace



1. CLICK

Sample Network Simulation

Under End Devices, these are the following devices available:



Sample Network Simulation

- Double-click [PC1]
- Change name to “ITE CW”
- Under Interface, click on FastEthernet and set the IP address as 192.168.1.1

Sample Network Simulation

The screenshot displays the configuration window for a network device (ITE CW) in a simulation environment. The 'Config' tab is selected, showing the configuration for the 'FastEthernet0' interface. The interface is currently set to 'On' status. The IP configuration is set to 'Static', and the IP address field is empty, indicated by a red box and the text 'ENTER IP ADDRESS'. The MAC address is 000D.BD56.5A41. The speed is set to 'Auto' (100 Mbps) and duplex is set to 'Auto' (Half Duplex). The 'Config' tab and 'FastEthernet0' interface are also highlighted with red boxes. A red arrow points from the text 'CLICK' to the 'FastEthernet0' interface in the left sidebar.

Sample Network Simulation

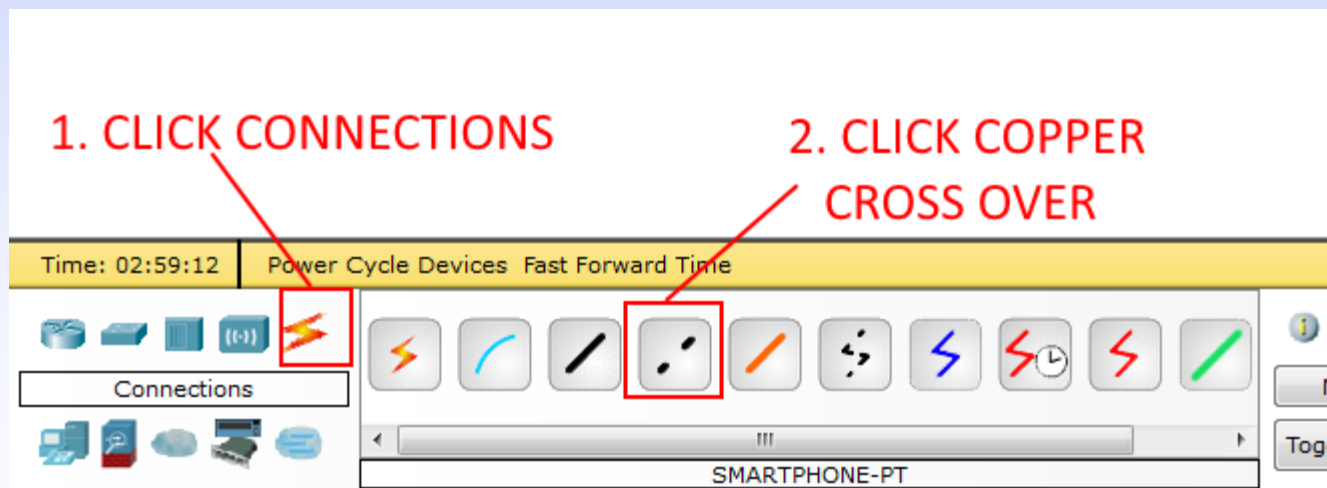
- Drag second PC
- Double-click [PC2]
- Change name to “ITE CC”
- Under Interface, click on FastEthernet and set the IP address as 192.168.1.2

Sample Network Simulation

- Under Connections, select the Copper Straight-through cable, the solid black line, and make a connection between the devices with it
- The red lights on the link indicate that the connection is not working
- The point is the simulator will do what you tell it, whether that is right or wrong

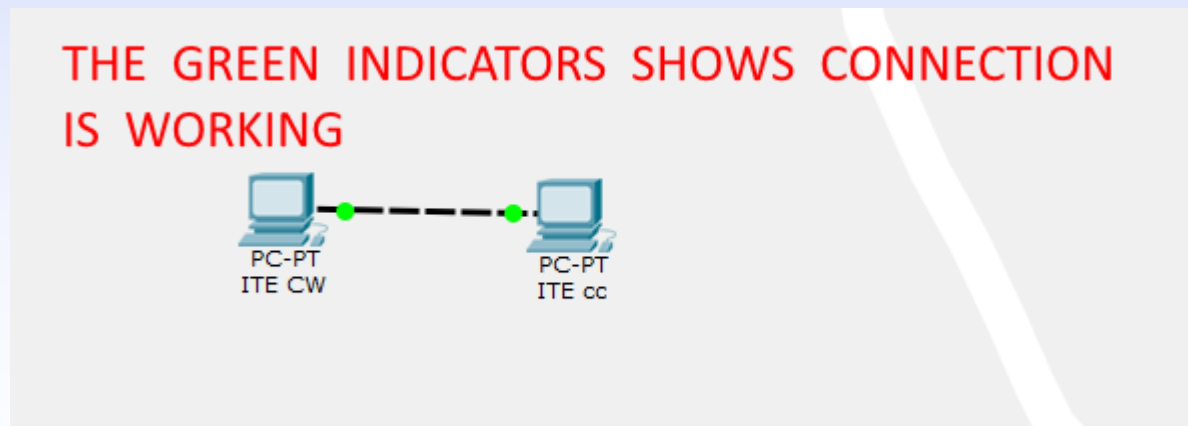
Sample Network Simulation

- Under Connections, select the Copper Cross over cable



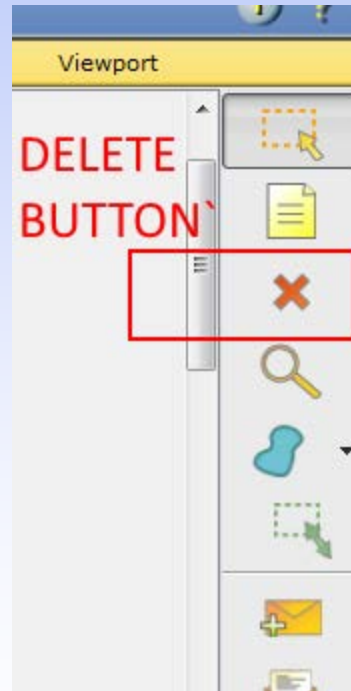
Sample Network Simulation

- Click PC1, choose [Fast Ethernet0]
- Move to PC2, click, choose [Fast Ethernet0]



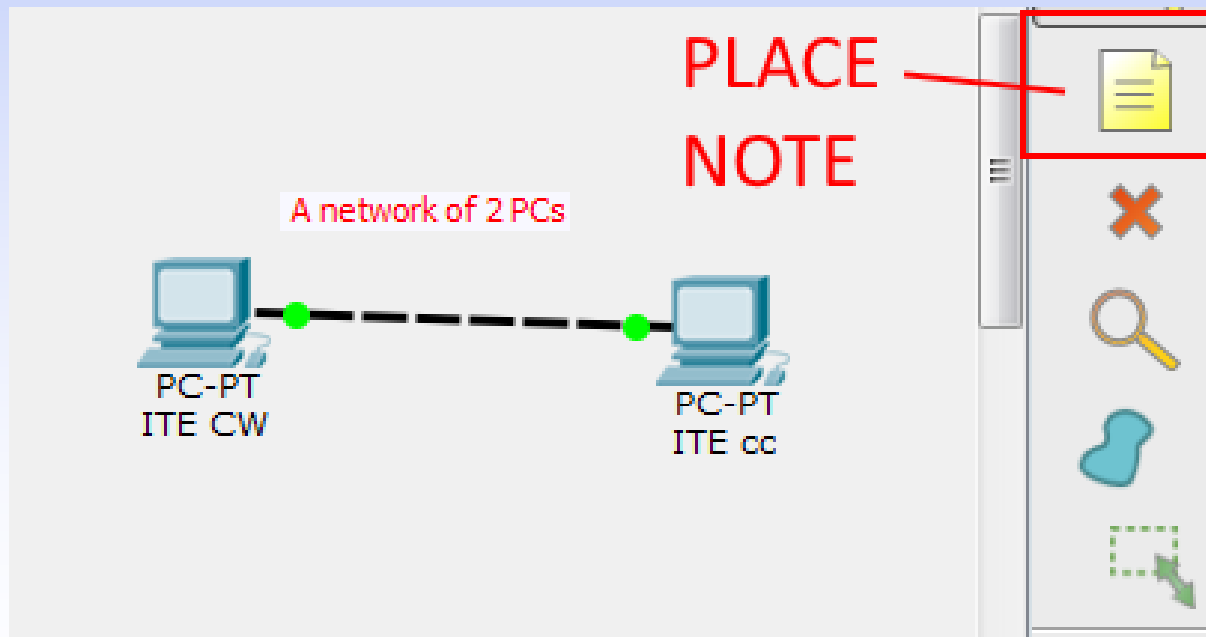
Sample Network Simulation

To delete any item, select and click Delete Button



Sample Network Simulation

- Click [Place Note tool]
- Add a title “A network of 2 PCs”



Sample Network Simulation

- Turn PC on/off.

The screenshot shows a software interface for configuring a network device. At the top, there are menu items: "New Cluster", "Move Object", "Set Tiled Background", and "View". Below this is a window titled "ITE CW" with tabs for "Physical", "Config", "Desktop", and "Software/Services". The "Config" tab is active, showing the configuration for "FastEthernet0".

On the left side of the "Config" tab, there are sections for "GLOBAL" (with "Settings" and "Algorithm Settings" buttons) and "INTERFACE" (with a "FastEthernet0" button). The main configuration area for "FastEthernet0" includes:

- Port Status: On (highlighted with a red box and arrow)
- Bandwidth: 100 Mbps 10 Mbps Auto
- Duplex: Half Duplex Full Duplex Auto
- MAC Address: 000D.BD56.5A41
- IP Configuration: DHCP

To the right of the configuration window, there is a diagram titled "A network of 2 PCs" showing two computer icons connected by a dashed line. The left icon is labeled "PC-PT ITE CW" and the right icon is labeled "PC-PT ITE cc".

Red text above the diagram reads: "USE THIS TO TURN DEVICE ON / OFF".

Ping with Simple PDU

- To use the Add Simple PDU tool
 - Click on it
 - Click on the first PC
 - Click on the second PC
- Then look down in the bottom right corner to see if the ping was successful

Ping with Simple PDU

A network of 2 PCs

PC-PT
ITE CW

PC-PT
ITE cc

SIMPLE PDU

PING SUCCESSFUL

Realtime

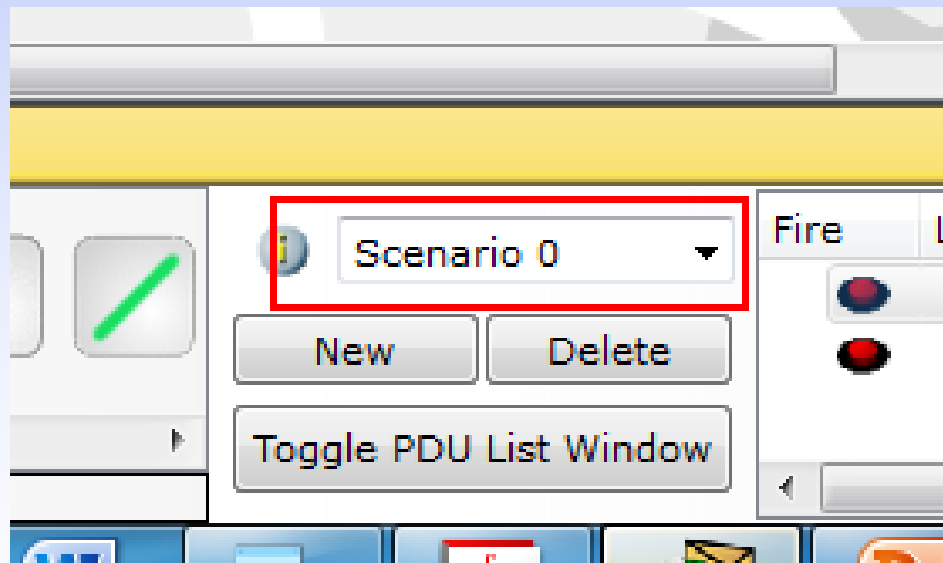
Fire	Last Status	Source	Destination	Type	Color	Time(sec)	Periodic	Num
	Successful	ITE CW	ITE cc	ICMP	Blue	0.000	N	0
	Successful	ITE CW	ITE cc	ICMP	Pink	0.000	N	1

Scenario

- By default you are in Scenario 0
- You can change the name.
- Different scenarios allow you to use the same topology for experiments with different groupings of user created packets
- Click on New to create a new scenario

Scenario

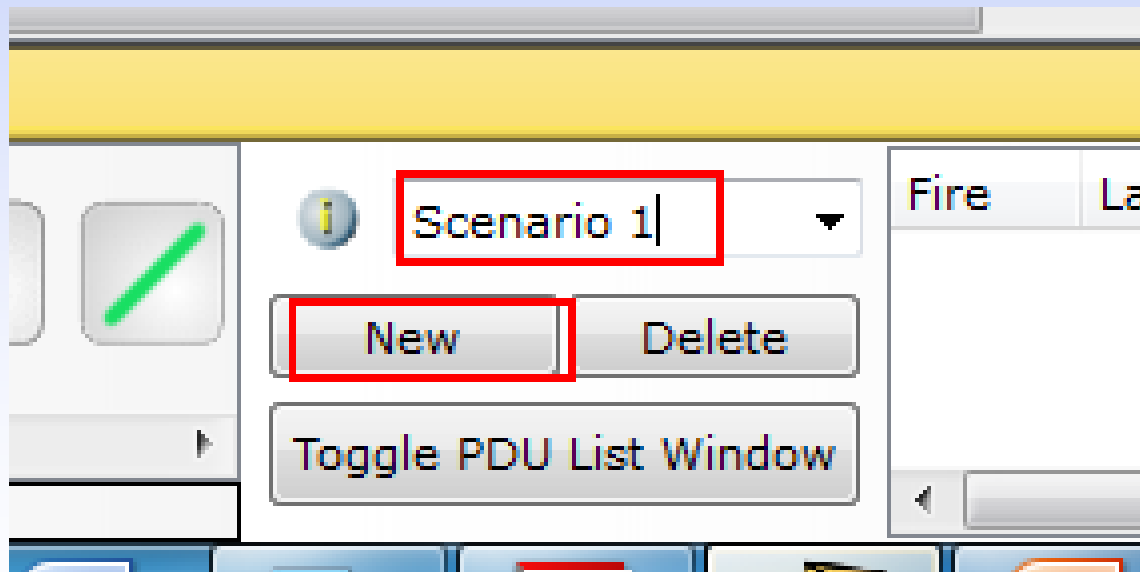
- By default you are in Scenario 0
- You can change the name.



Scenario

We want to leave Senario0 alone and try another experiment in a new scenario.

- Click on New to create a new scenario



Scenario

Addition or deletion of devices will affect all scenarios.

Save your file.

Simulation Mode

- In this mode, animation is used to show data moving from one device to another.

Simulation Mode

- Choose Simulation

The screenshot displays a network simulation interface. On the left is the 'Simulation Panel' with an 'Event List' table, control buttons, and filters. On the right is a network diagram showing a central switch connected to three devices: a PC, a PC-PT, and a Laptop-PT. A red arrow points to the switch with the word 'ANIMATION' in red text. A red box highlights the 'Simulation' button in the bottom right corner.

Simulation Panel

Event List

Vis.	Time(sec)	Last Device	At Device	Type	Info
	0.000	--	ITE CW	ICMP	
	0.000	--	ITE CW	ICMP	
	0.000	--	ITE CW	ICMP	
	0.000	--	ITE CW	ICMP	
	0.000	--	ITE CW	ICMP	
	0.000	--	ITE CW	ICMP	

Reset Simulation Constant Delay Captured to: * 0.000 s

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

Event List **Simulation**

Simulation – Capture/Forward

- Click [Reset Simulation]
- Click [Capture/Forward] button once

Capture takes effect.
Packet is sent from
PC1 to PC2

The screenshot shows the 'Simulation Panel' window. At the top is an 'Event List' table with the following data:

Vis.	Time(sec)	Last Device	At Device	Type	Info
	0.000	--	ITE CW	ICMP	
	0.000	--	ITE CW	ICMP	
	0.000	--	ITE CW	ICMP	
	0.000	--	ITE CW	ICMP	
	0.000	--	ITE CW	ICMP	
	0.000	--	ITE CW	ICMP	

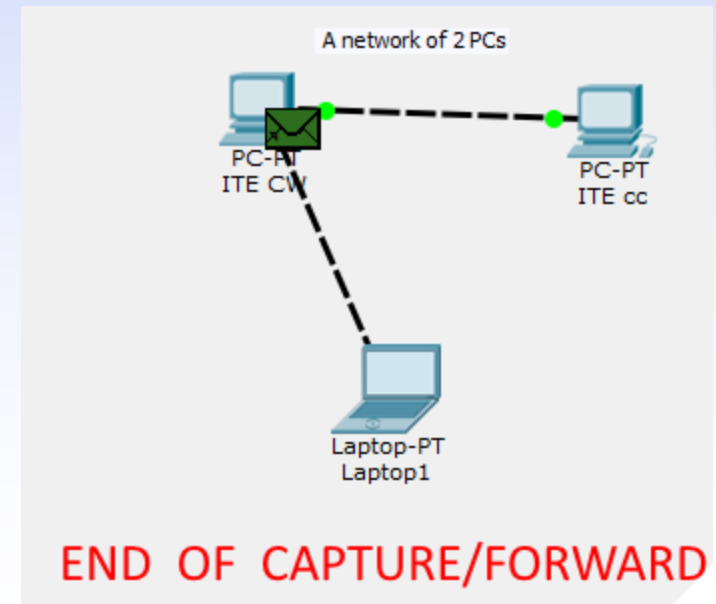
Below the table, the 'Reset Simulation' button is highlighted with a red box. To its right is a checked checkbox for 'Constant Delay' and a 'Captured to: * 0.000 s' indicator. At the bottom, the 'Play Controls' section contains three buttons: 'Back', 'Auto Capture / Play', and 'Capture / Forward', with the latter also highlighted by a red box.

Simulation - Forward

- The first time through an animation, the effect of [Capture/Forward] is Capture;
- Keep clicking the button until no more packets are sent
- A green arrow on a packet indicates successful sending of packet
- Check updates at Event List

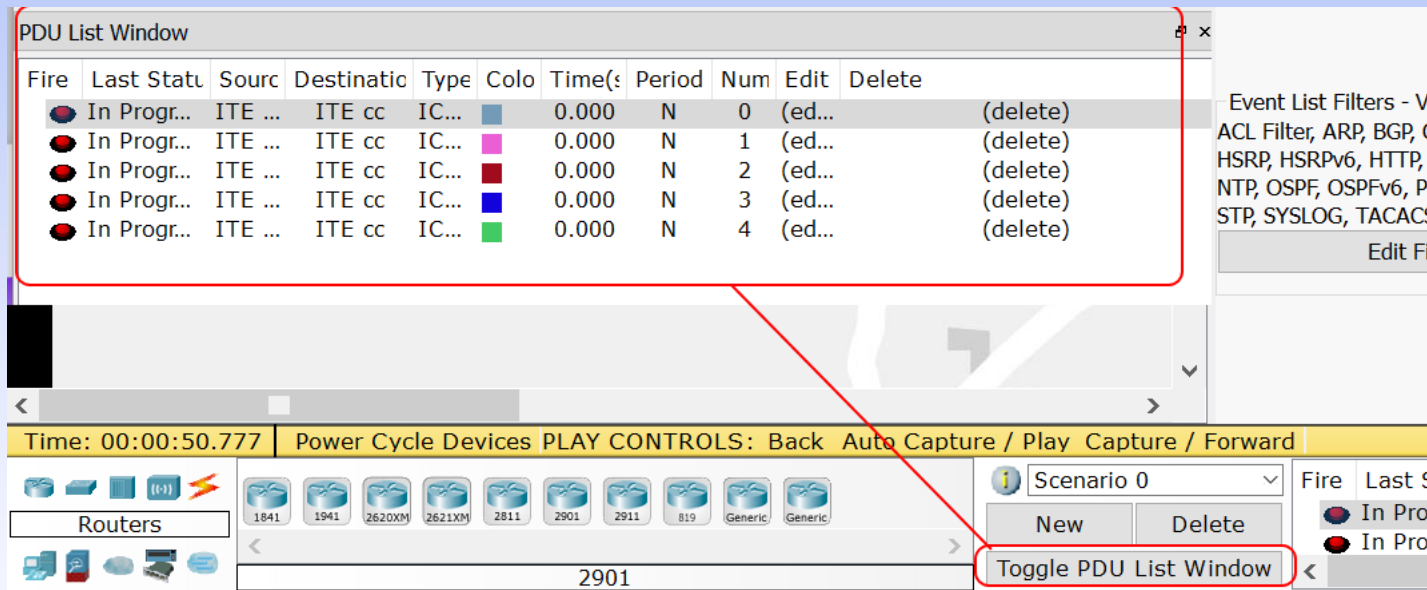
Vis.	Time(sec)	Last De	At Dev	Type	Info
	0.000	--	ITE C...	ICMP	
	0.000	--	ITE C...	ARP	
	0.000	--	ITE C...	ICMP	
	0.000	--	ITE C...	ARP	
	0.000	--	ITE C...	ICMP	
	0.000	--	ITE C...	ARP	
	0.000	--	ITE C...	ARP	

Reset Simulation Constant Delay Captured to: *



Simulation – PDU List Window

- Click [Toggle PDU List Window]



- Click [Toggle PDU List Window] to close window

Simulation – Back Button

- Click [Back Button] twice to rewind the animation one step at a time

Simulation – Packet Info

- Clicking on a packet (envelope) displays information on it

The screenshot displays a network simulation interface. On the left, a window titled "PDU Information at Device: ITE CW" shows details for an inbound packet. The "OSI Model" tab is active, displaying "In Layers" and "Out Layers". The "In Layers" section is expanded to show Layer 1, 2, and 3 details. A red arrow points from a packet icon in the network diagram to the Layer 3 details in the PDU window.

PDU Information at Device: ITE CW

OSI Model Inbound PDU Details

At Device: ITE CW
Source: ITE CW
Destination: ITE cc

In Layers	Out Layers
Layer7	Layer7
Layer6	Layer6
Layer5	Layer5
Layer4	Layer4
Layer3: IP Header Src. IP: 192.168.1.2, Dest. IP: 192.168.1.1 ICMP Message Type: 0	Layer3
Layer 2: Ethernet II Header 0003.E4D1.0899 >> 000D.BD56.5A41	Layer2
Layer 1: Port FastEthernet0	Layer1

1. FastEthernet0 receives the frame.

The network diagram on the right shows a network of two PCs (PC-PT ITE CW and PC-PT ITE cc) connected to a Laptop-PT Laptop1. A red circle highlights the PC-PT ITE CW node, with a red arrow pointing to the Layer 3 details in the PDU window.