

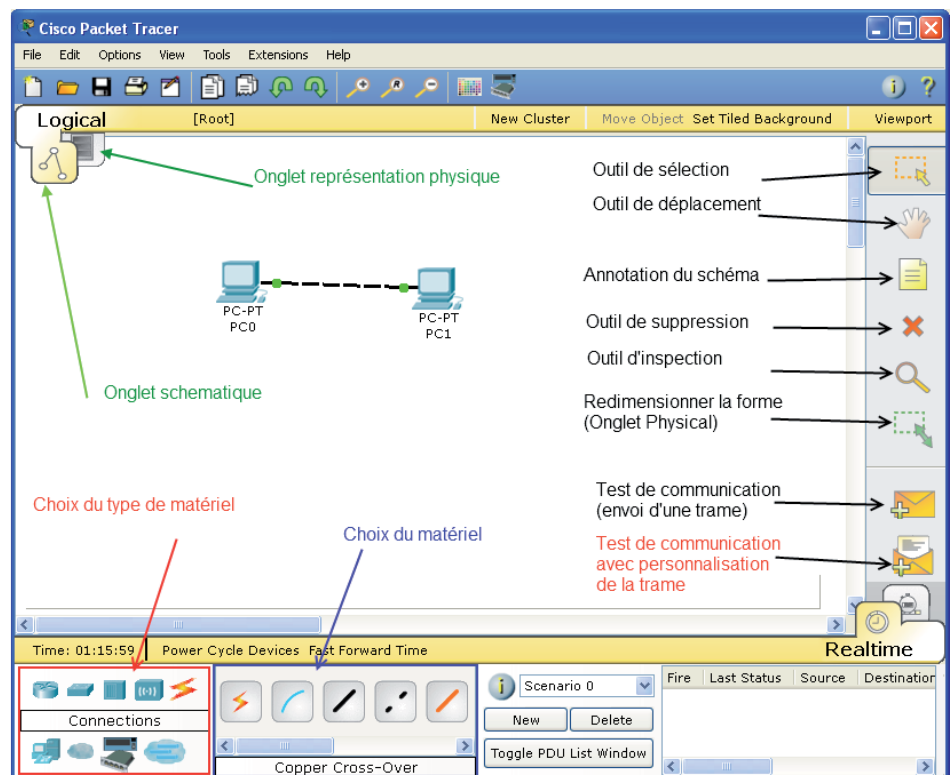
Lab #1 : Introduction to Packet Tracer

Communication Networks
Prof. SAYAD Lamri

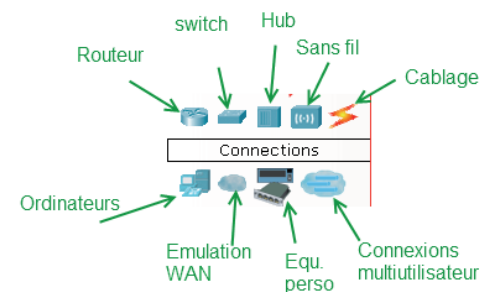
Academic Year : 2025/2026
Duration : 2 sessions

Exercise #1 : Getting started with Packet Tracer

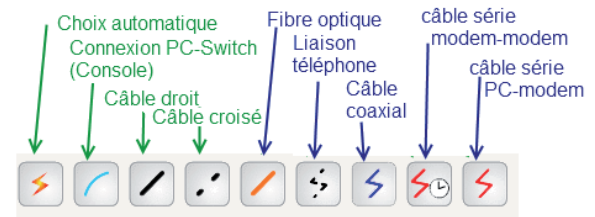
1. Open Packet Tracer



2. Explain the different Tabs, and how to switch between the physical and logical topologies and the difference between them
3. Explain how to add a device, and what are the different kinds of devices



4. Explain how to add a connection between two devices, and what are the different kinds of connections
5. Explain How to configure a device and execute commands



6. What is the simulation mode and how to use it.

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7. Explain how to save a project.
8. Explain how to export your network diagram.

Exercise #2 : *Create a Peer-to-Peer network with 2 computers*

9. Open Packet Tracer
10. Add a 2 hosts. To add a host :

- a. Single click on the End Devices  .
- b. Single click on the Generic Host  .
- c. Move the cursor into topology area. Single click in the topology area and it copies the device.

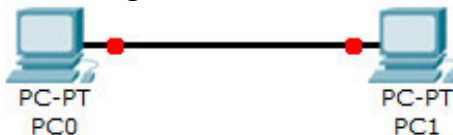
11. You should obtain the following result



12. Now, you need connect between the hosts by a cable.

- a. Single click on the Connections  .
- b. Click once on the Copper Straight-through cable  .
- c. Perform the following steps to connect PC0 to PC1:
 - i. Click once on PC0
 - ii. Choose Fast Ethernet
 - iii. Drag the cursor to PC1
 - iv. Click once on PC1 and choose Fast Ethernet
 - v. Notice the green link lights on both the PC0 Ethernet NIC and the PC1 Ethernet NIC showing that the link is active.

13. You should obtain the following result



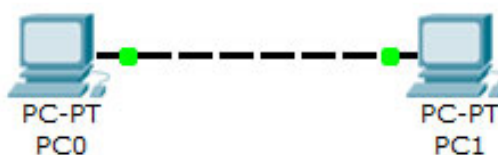
14. The red color indicates that there is a problem in the network design. What is the problem in this topology ?

Your Answer :

15. How to solve this issue ?

Your Answer :

16. Implement this solution to obtain the following result



You should now understand when to use **Copper Straight-through cable**  and when to use **Cross-over Cable** .

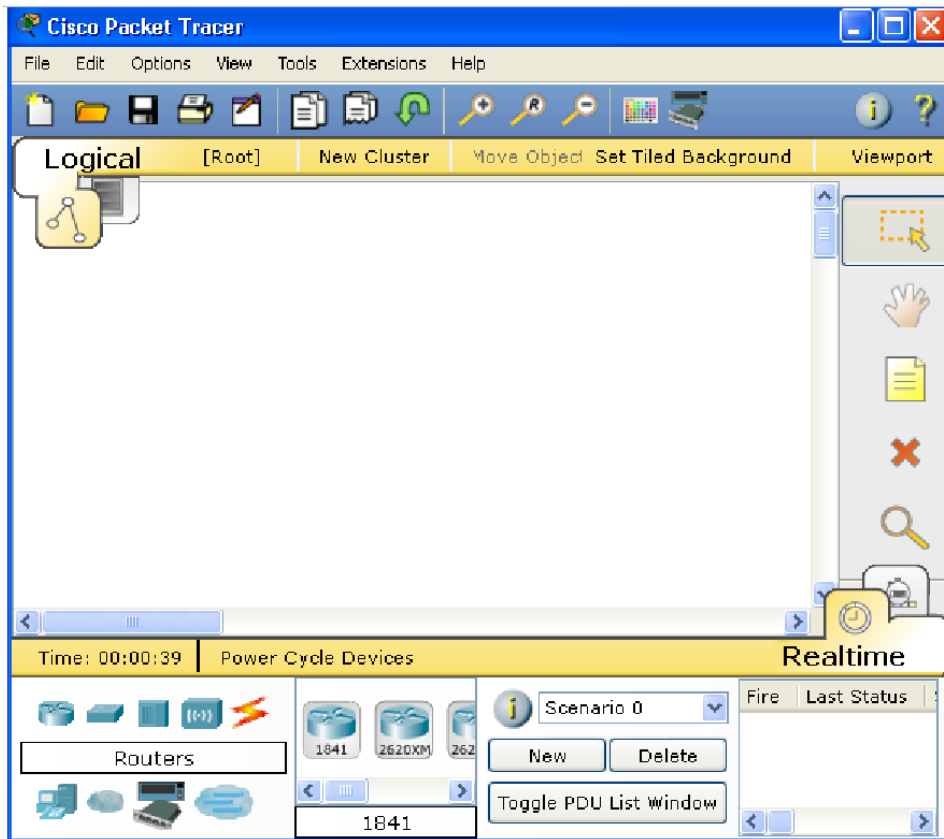
17. Now, you will try to send data between the 2 hosts.

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- Add simple PDU (Protocol Data Unit). Single click on . Then, click on PC0 followed by a click on PC1 to send data from PC0 to PC1.
- Is there any errors or warnings during the transmission? What might be the cause?

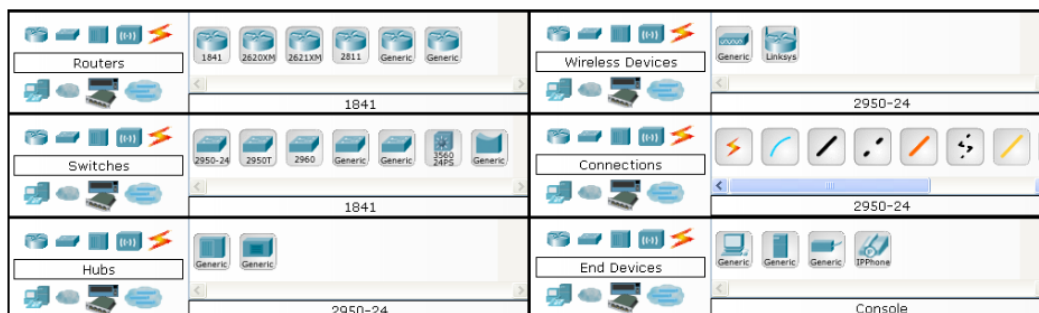
Exercise #3 : *Hub Topology and Switch topology*

Step 1: Start Packet Tracer and Entering Simulation Mode



Step 2: Choosing Devices and Connections

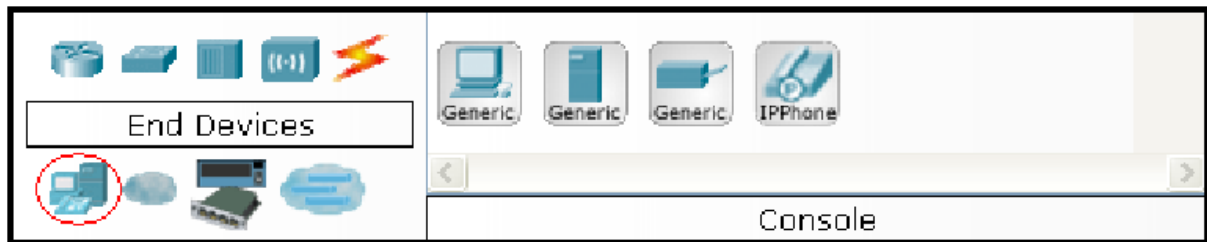
For this lab we will keep it simple by using End Devices, Switches, Hubs, and Connections. Single click on each group of devices and connections to display the various choices.



Step 3: Building the Topology – Adding Hosts

- Single click on the End Devices.

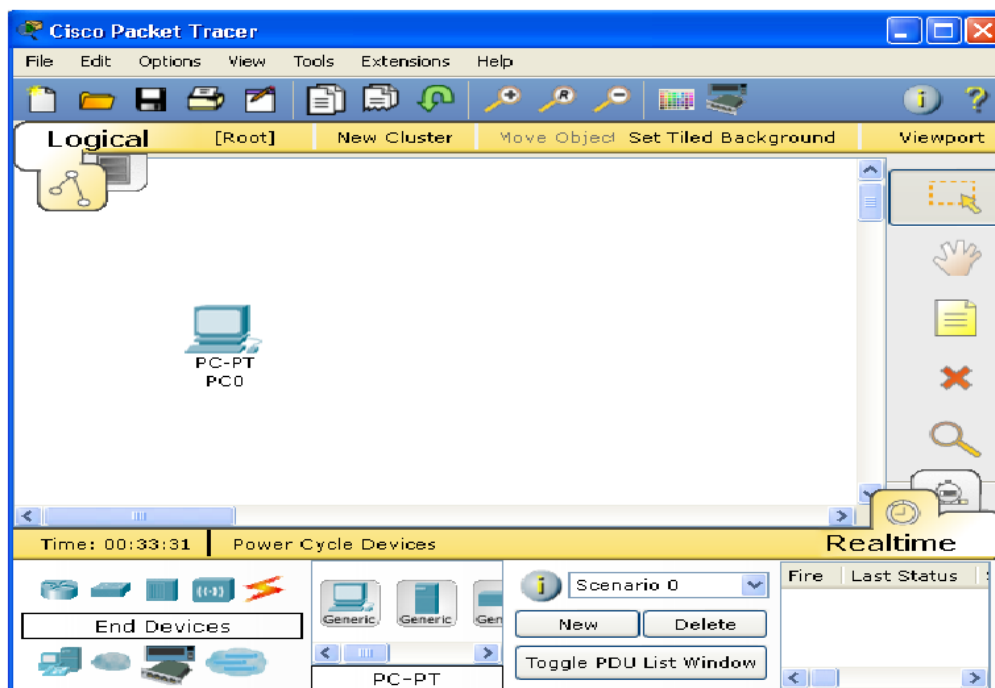
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- Single click on the Generic host.



- Move the cursor into topology area. You will notice it turns into a plus “+” sign. Single click in the topology area and it copies the device.

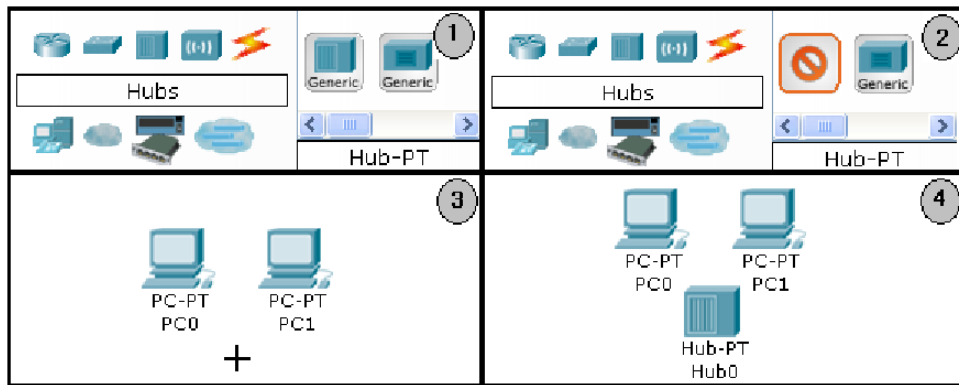


- Add three more hosts

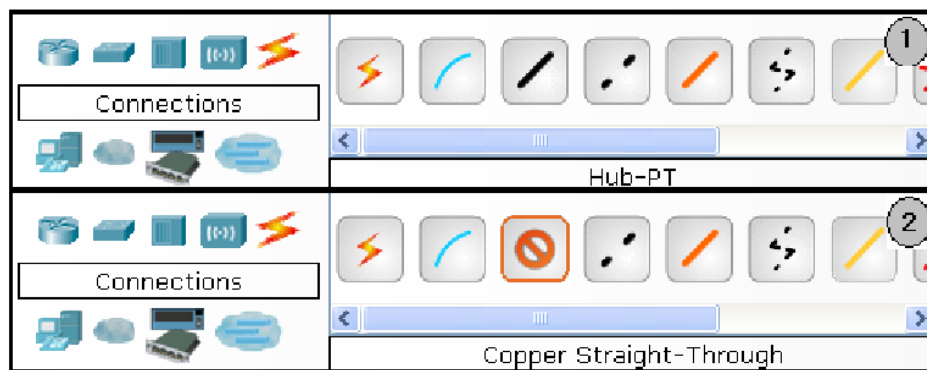
Step 4: Building the Topology – Connecting the Hosts to Hubs and Switches

- Adding a Hub: Select a hub, by clicking once on Hubs and once on a Generic hub.

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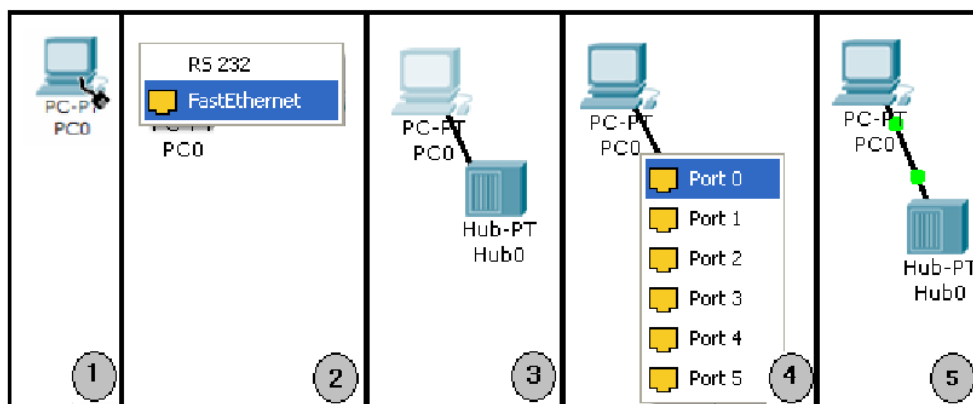


- Connect PC0 to Hub0 by first choosing Connections.
- Click once on the Copper Straight-through cable.



Perform the following steps to connect PC0 to Hub0:

1. Click once on PC0
2. Choose Fast Ethernet
3. Drag the cursor to Hub0
4. Click once on Hub0 and choose Port0
5. Notice the green link lights on both the PC0 Ethernet NIC and the Hub0 Port0 showing that the link is active.

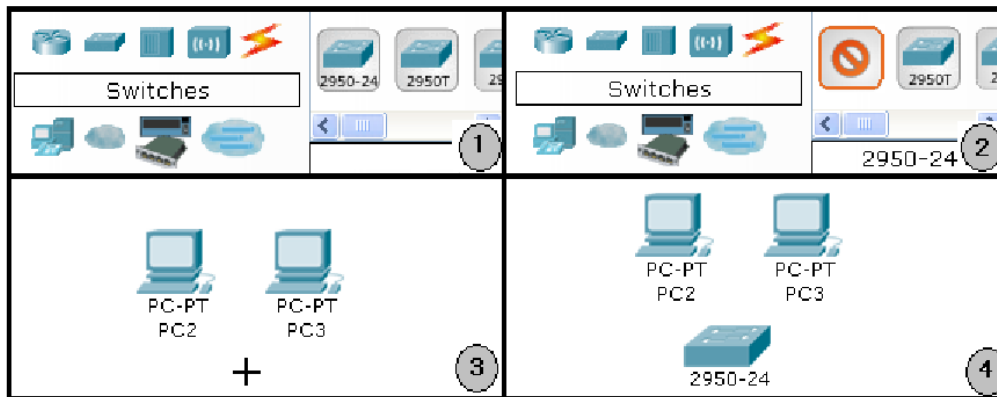


Repeat the steps above for PC1 connecting it to Port1 on Hub0. (The actual hub port you choose does not matter.)

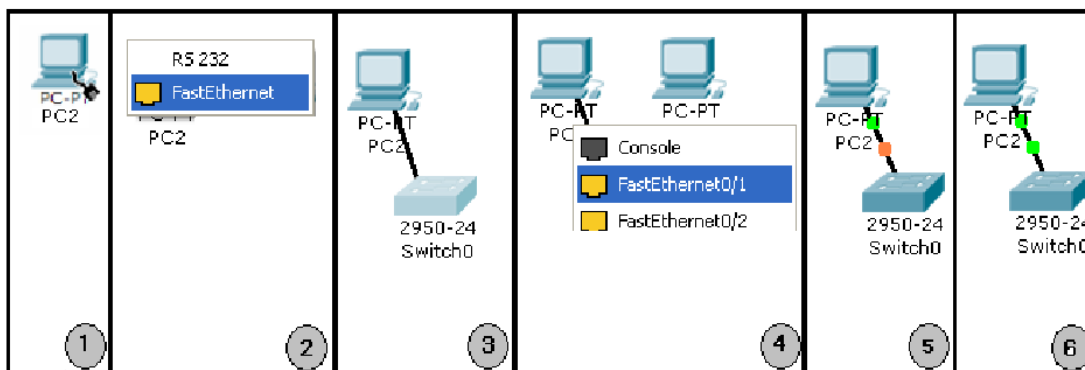
Adding a Switch

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Select a switch, by clicking once on Switches and once on a 2950-24 switch. Add the switch by moving the plus sign "+" below PC2 and PC3 and click once.



- Connect PC2 to Switch0 by first choosing Connections.
- Click once on the Copper Straight-through cable.
- Perform the following steps to connect PC2 to Switch0:
 1. Click once on PC2
 2. Choose FastEthernet
 3. Drag the cursor to Switch0
 4. Click once on Switch0 and choose FastEthernet0/1
- 1. Notice the green link lights on PC2 Ethernet NIC and amber light Switch0 FastEthernet0/1 port. The switch port is temporarily not forwarding frames, while it goes through the stages for the Spanning Tree Protocol (STP) process.
- 2. After a about 30 seconds the amber light will change to green indicating that the port has entered the forwarding stage. Frames can now be forwarded out the switch port.



- Repeat the steps above for PC3 connecting it to Port3 on switch0 on port FastEthernet0/2. (The actual switch port you choose does not matter.)
- Move the cursor over the link light to view the port. Fa means FastEthernet, 100 Mbps Ethernet.

