Using Packet Tracer to Simulate a Simple Network

Part of Lab 7 for CE 80N

Fall 2014

Summary

1. Start Packet Tracer. Either . . .
   - Run it on a UCSC ITS-maintained Windows PC
   - Or install it on your own Windows PC
2. Create a network
   - Create two simulated PCs
     - Rename them and set their IP addresses
   - Connect the PCs with a simulated wire
3. Run two programs on the PCs

Running Packet Tracer

- You can run Packet Tracer in a UCSC PC lab
  - There are classes scheduled in the labs
    - But some PCs will be free
    - The TA has posted a sign
      - "Yield" means that you can use any open PC
      - "Stop" means that you cannot
  - You can
    - Check the lab's course schedule (link in next slide)
    - Just drop by and see if PCs are available

UCSC PCs That Can Run Packet Tracer

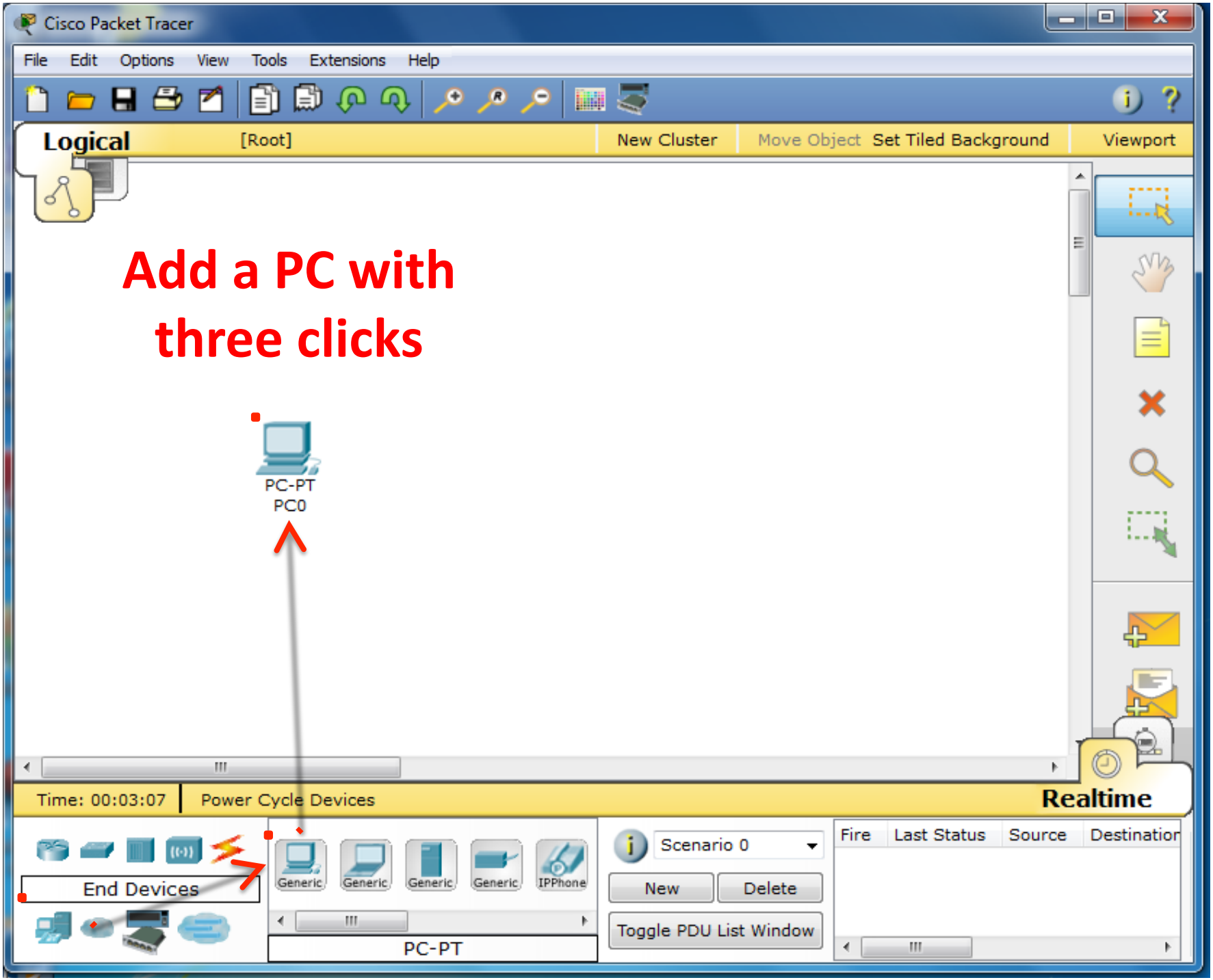
- Find a campus Windows computer lab
  - These labs have Windows PCs
    - Baskin Engineering 109
    - Cowell Apartments 101
    - Kresge 317
    - Merrill: Ming Ong Building
    - Oakes 205
    - Social Sciences 1, Room 135
  - Hours, Locations, and Scheduled Classes
    - http://its.ucsc.edu/computer-labs/hours
    - http://its.ucsc.edu/computer-labs/class-schedules/spring

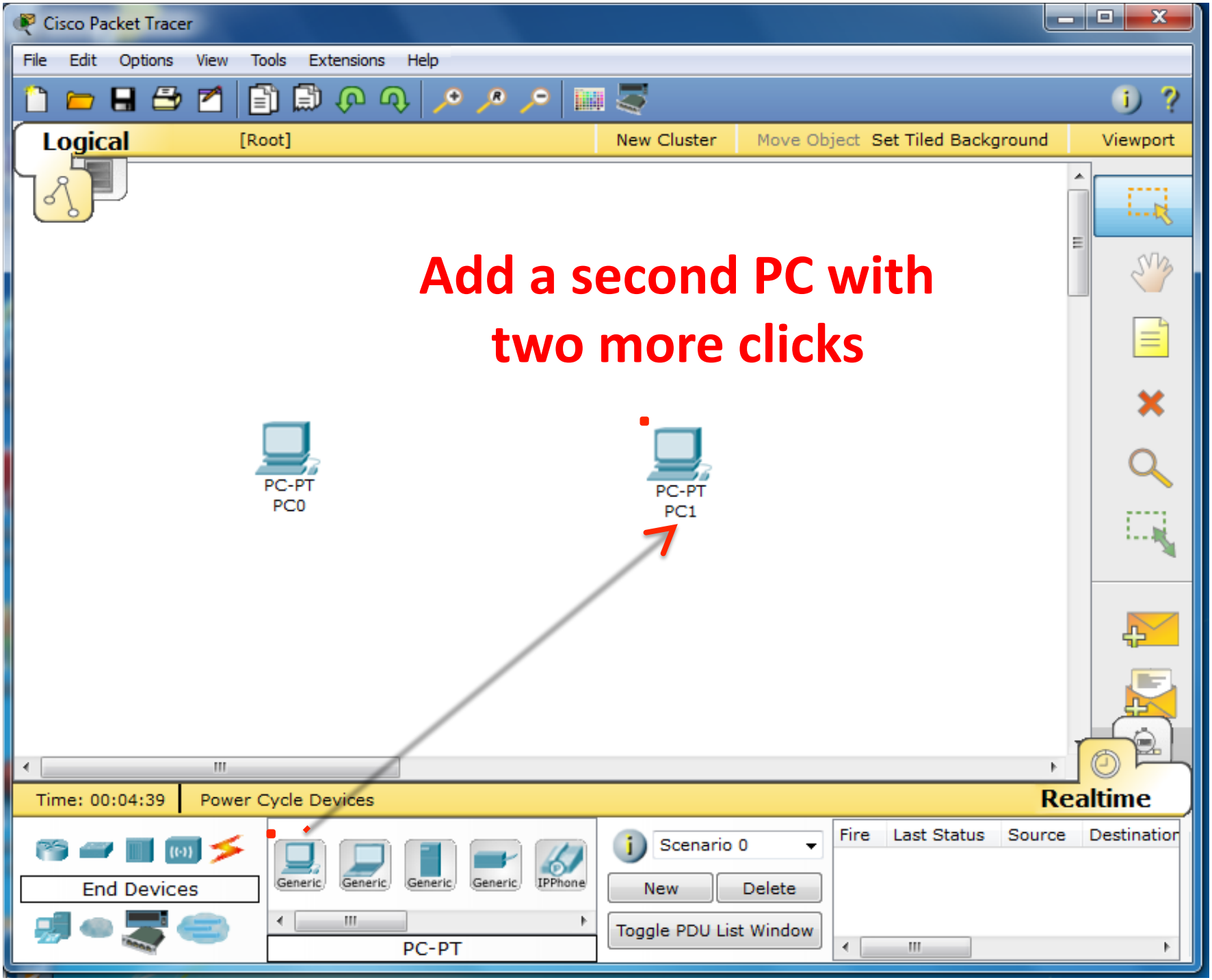
Want to Use Your Own Windows PC?

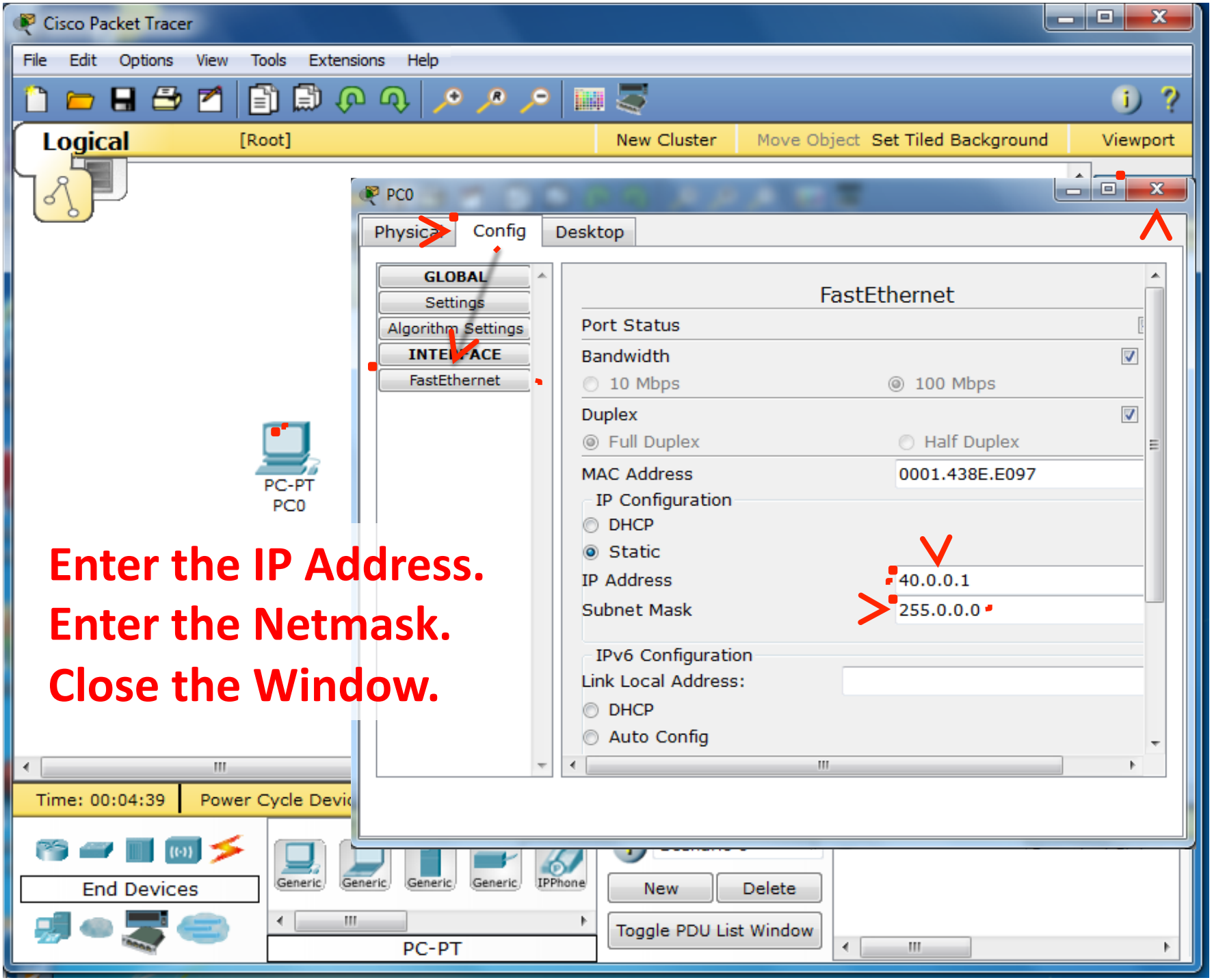
- You can install Packet Tracer on your own PC
  - If it has Windows
  - I've tested this only on my Windows 7 laptop
- The UCSC computers already have done this
  - **Don't try this** on the UCSC PCs
- Here's the installation program
  - http://www.soe.ucsc.edu/classes/cmpe080n/Winter11/PacketTracer53_setup.exe
- If this works, great!
  - If not, go to a UCSC Computer Lab

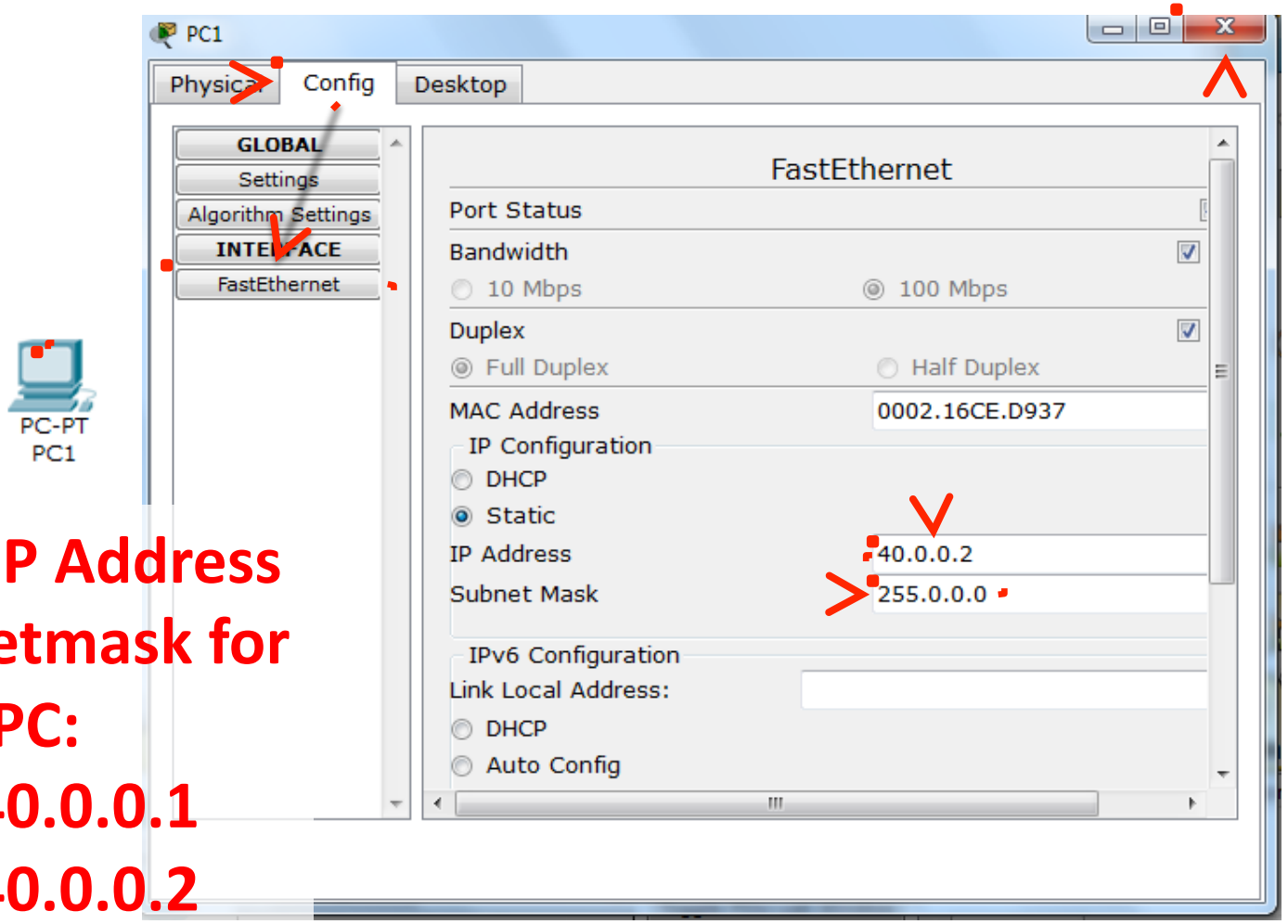
Start Packet Tracer

1. Log into the Windows PC
   - This won't work on a Mac
2. Open the "Class Folders" folder on the desktop
3. Open the "Computer Engineering" folder
4. Open the "CMPE 80N" folder
5. Double click on Packet Tracer


Cisco Packet Tracer
File Edit Options View Tools Extensions Help
Logical
[Root]
New Cluster
Move Object
Set Tiled Background
Viewport
Add a PC with three clicks
PC-PT
PC0
Time: 00:03:07
Power Cycle Devices
Realtime
End Devices
Generic
Generic
Generic
Generic
IPPhone
PC-PT
Scenario 0
New
Delete
Toggle PDU List Window
Fire
Last Status
Source
Destination


Cisco Packet Tracer
File Edit Options View Tools Extensions Help
Logical
[Root]
New Cluster
Move Object
Set Tiled Background
Viewport
Add a second PC with two more clicks
PC-PT PC0
PC-PT PC1
Time: 00:04:39
Power Cycle Devices
Realtime
End Devices
Generic
Generic
Generic
Generic
IPPhone
PC-PT
Scenario 0
New
Delete
Toggle PDU List Window
Fire
Last Status
Source
Destination

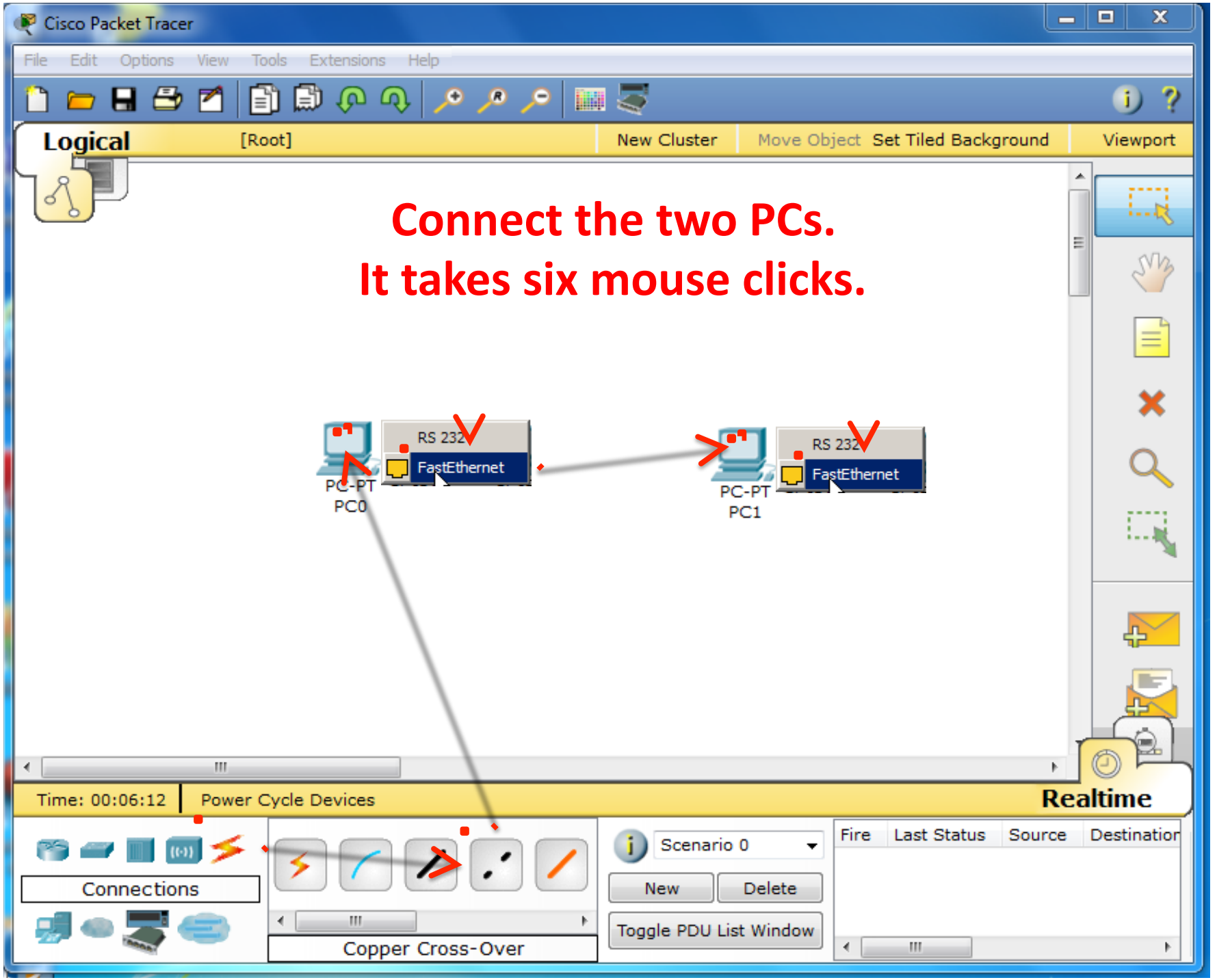

Cisco Packet Tracer
File Edit Options View Tools Extensions Help
Logical [Root]
New Cluster Move Object Set Tiled Background Viewport
PC0
Physical Config Desktop
GLOBAL
Settings
Algorithm Settings
INTERFACE
FastEthernet
FastEthernet
Port Status
Bandwidth
10 Mbps 100 Mbps
Duplex
Full Duplex Half Duplex
MAC Address 0001.438E.E097
IP Configuration
DHCP
Static
IP Address 40.0.0.1
Subnet Mask 255.0.0.0
IPv6 Configuration
Link Local Address:
DHCP
Auto Config
PC-PT
PC0
Enter the IP Address.
Enter the Netmask.
Close the Window.
Time: 00:04:39
Power Cycle Devi
End Devices
Generic Generic Generic Generic IPPhone
PC-PT
New Delete
Toggle PDU List Window

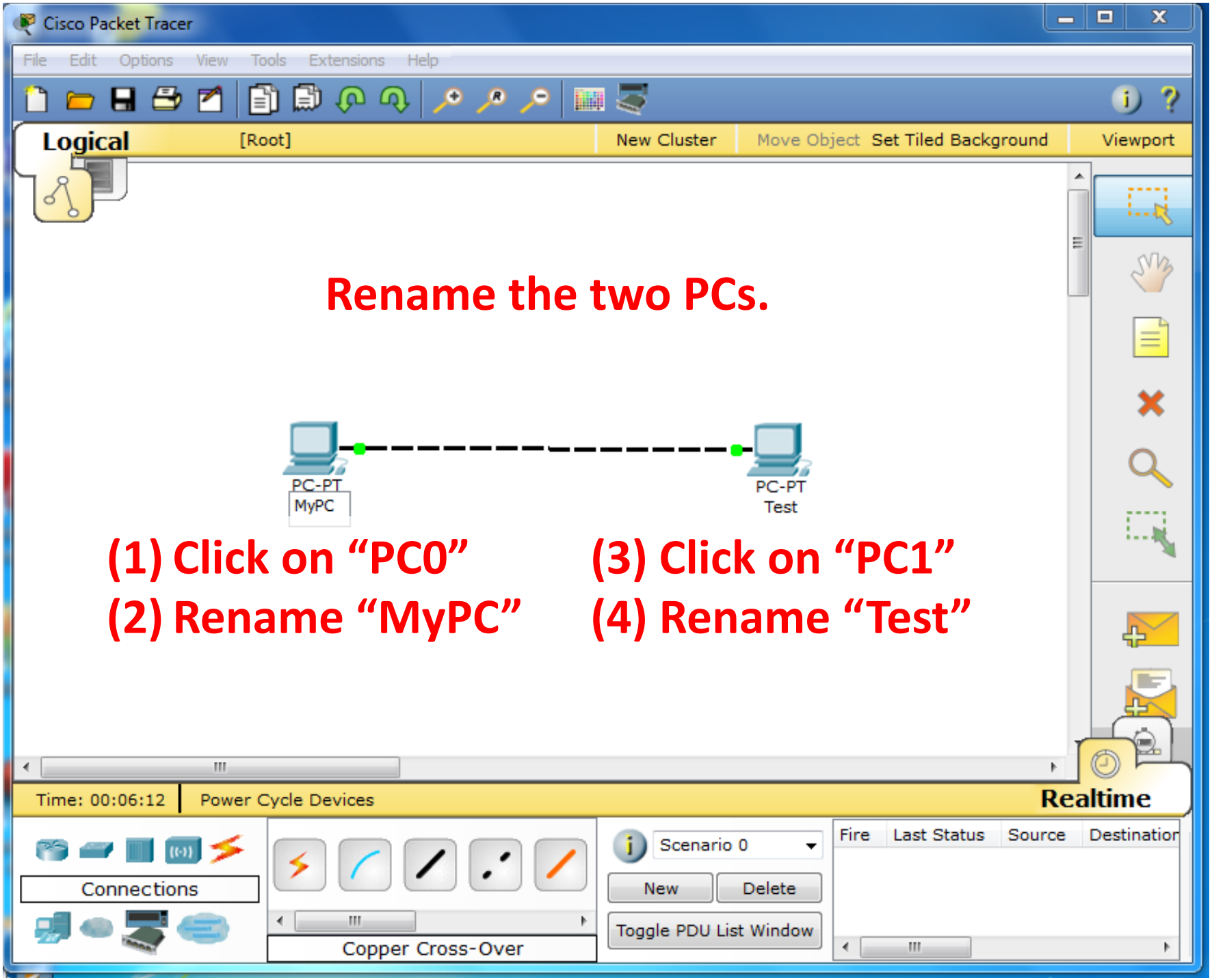


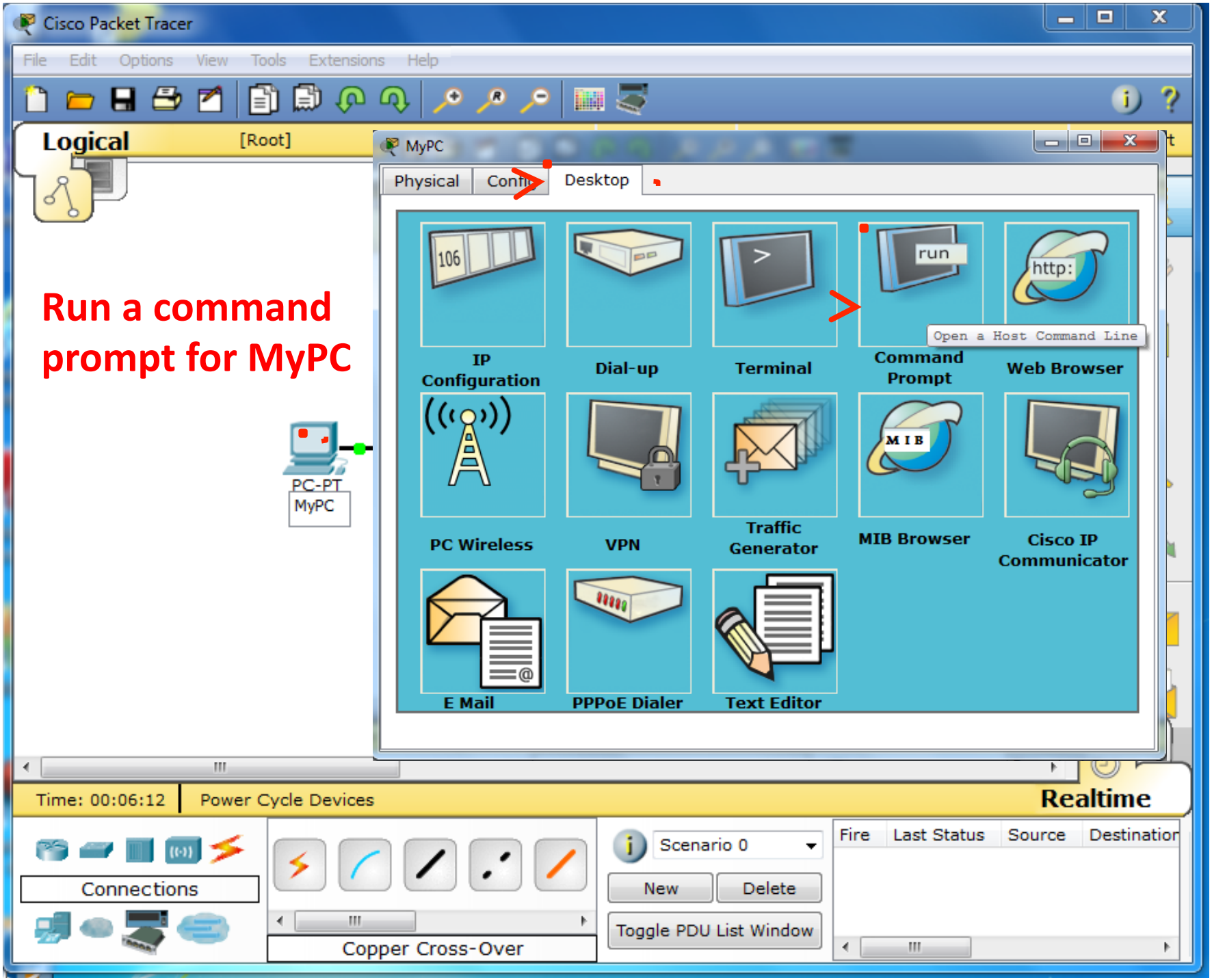
Enter the IP Address and the Netmask for the other PC:

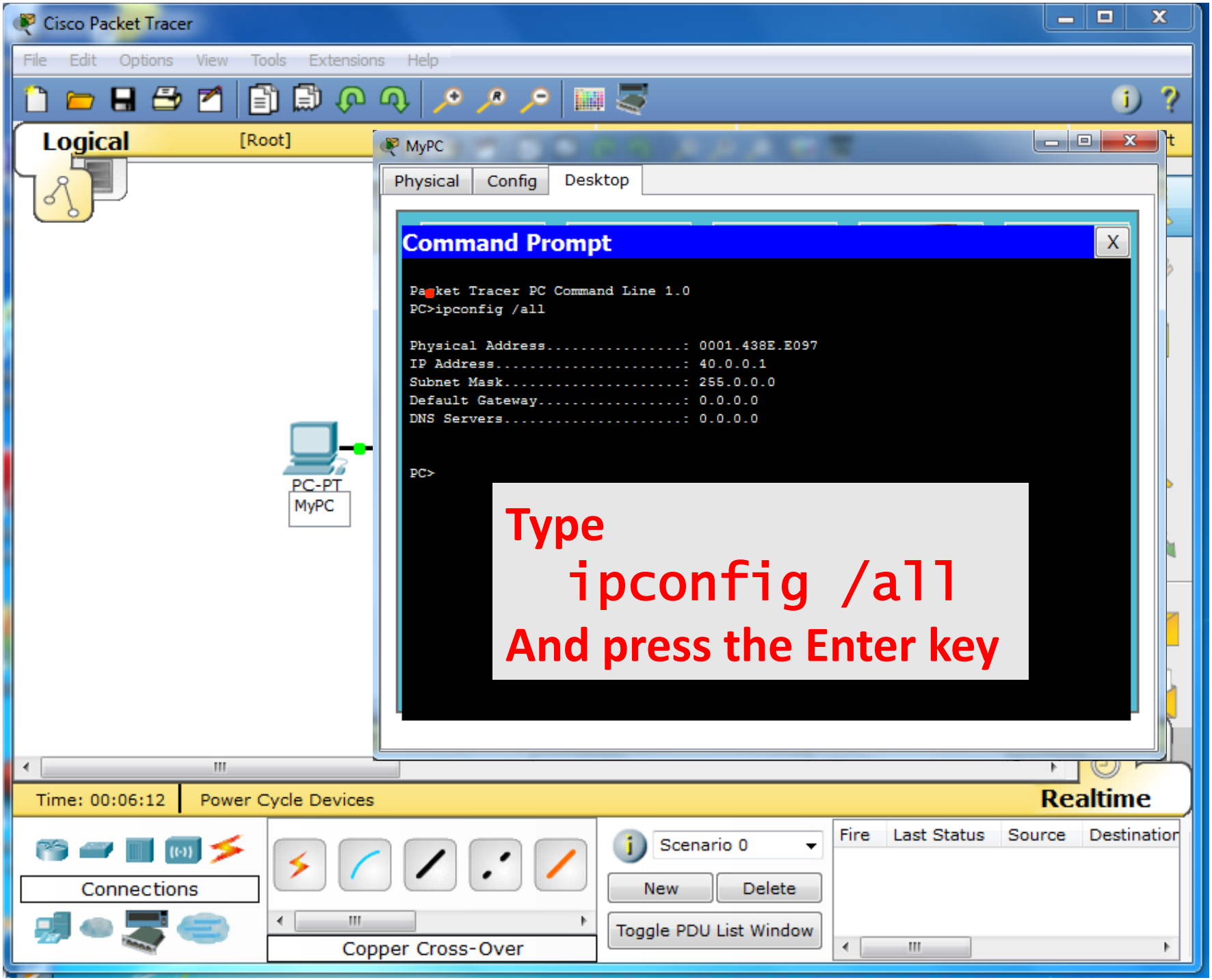
PC0 uses 40.0.0.1

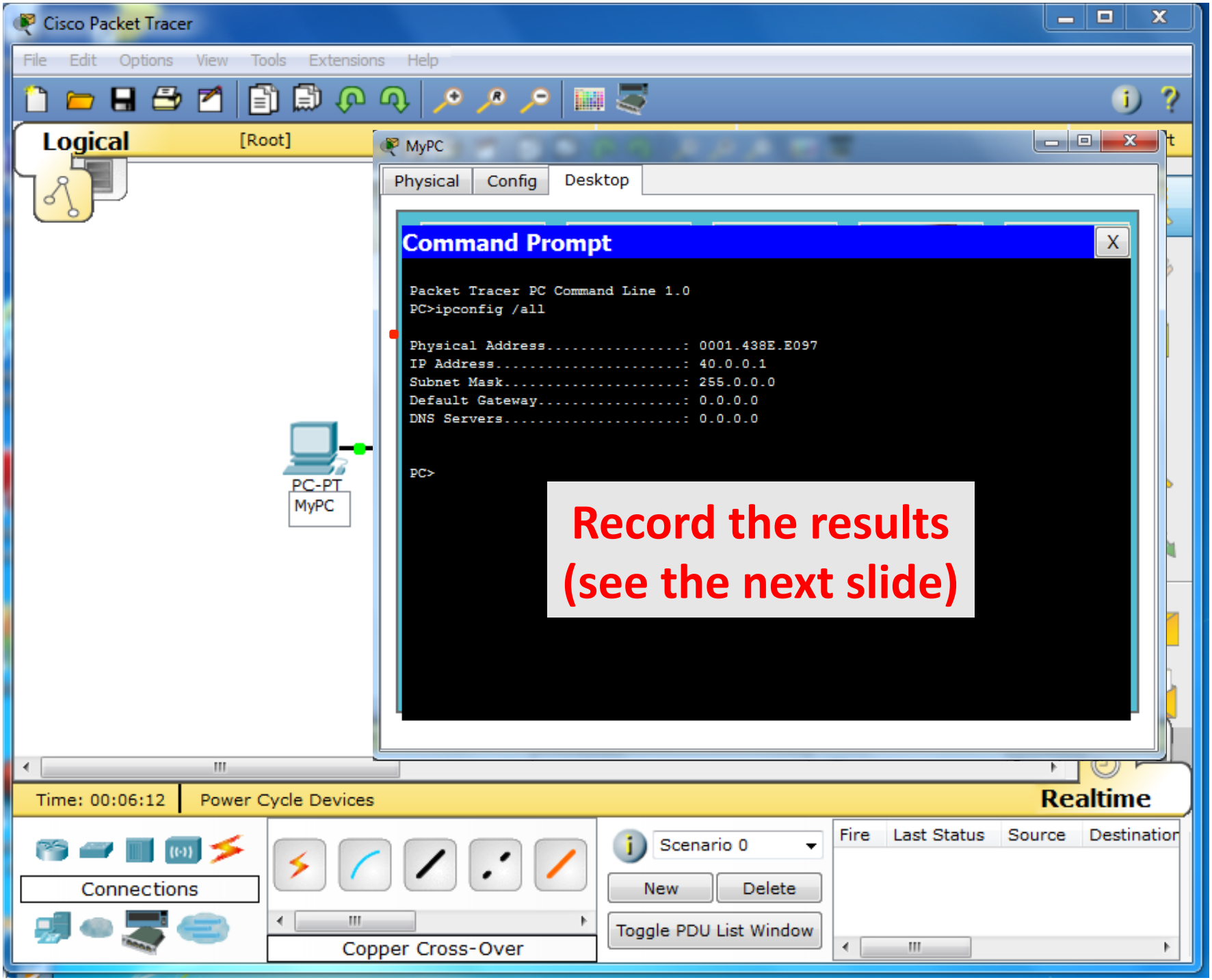
PC1 uses 40.0.0.2


Cisco Packet Tracer
File Edit Options View Tools Extensions Help
Logical
[Root]
New Cluster
Move Object
Set Tiled Background
Viewport
Connect the two PCs.
It takes six mouse clicks.
RS 232
FastEthernet
PC-PT
PC0
RS 232
FastEthernet
PC-PT
PC1
Time: 00:06:12
Power Cycle Devices
Realtime
Connections
Copper Cross-Over
Scenario 0
New
Delete
Toggle PDU List Window
Fire
Last Status
Source
Destination


Cisco Packet Tracer
File Edit Options View Tools Extensions Help
Logical
[Root]
New Cluster
Move Object
Set Tiled Background
Viewport
Rename the two PCs.
PC-PT
MyPC
PC-PT
Test
(1) Click on “PC0”
(2) Rename “MyPC”
(3) Click on “PC1”
(4) Rename “Test”
Time: 00:06:12
Power Cycle Devices
Realtime
Connections
Copper Cross-Over
Scenario 0
New
Delete
Toggle PDU List Window
Fire
Last Status
Source
Destination


Cisco Packet Tracer
File Edit Options View Tools Extensions Help
Logical [Root]
Run a command prompt for MyPC
PC-PT
MyPC
MyPC
Physical Config Desktop
IP Configuration
Dial-up
Terminal
Command Prompt
Web Browser
Open a Host Command Line
PC Wireless
VPN
Traffic Generator
MIB Browser
Cisco IP Communicator
E Mail
PPPoE Dialer
Text Editor
Time: 00:06:12 Power Cycle Devices
Realtime
Connections
Copper Cross-Over
Scenario 0
New Delete
Toggle PDU List Window
Fire Last Status Source Destination


Cisco Packet Tracer
File Edit Options View Tools Extensions Help
Logical [Root]
MyPC
Physical Config Desktop
Command Prompt
Packet Tracer PC Command Line 1.0
PC>ipconfig /all
Physical Address.....: 0001.438E.E097
IP Address.....: 40.0.0.1
Subnet Mask.....: 255.0.0.0
Default Gateway.....: 0.0.0.0
DNS Servers.....: 0.0.0.0
PC>
Type
ipconfig /all
And press the Enter key
PC-PT
MyPC
Time: 00:06:12
Power Cycle Devices
Realtime
Connections
Copper Cross-Over
Scenario 0
New
Delete
Toggle PDU List Window
Fire
Last Status
Source
Destination

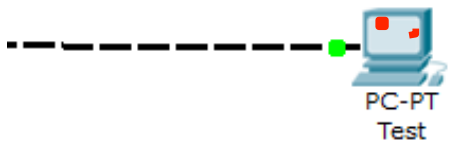

Cisco Packet Tracer
File Edit Options View Tools Extensions Help
Logical [Root]
MyPC
Physical Config Desktop
Command Prompt
Packet Tracer PC Command Line 1.0
PC>ipconfig /all
Physical Address.....: 0001.438E.E097
IP Address.....: 40.0.0.1
Subnet Mask.....: 255.0.0.0
Default Gateway.....: 0.0.0.0
DNS Servers.....: 0.0.0.0
PC>
Record the results
(see the next slide)
PC-PT
MyPC
Time: 00:06:12
Power Cycle Devices
Realtime
Connections
Copper Cross-Over
Scenario 0
New
Delete
Toggle PDU List Window
Fire
Last Status
Source
Destination

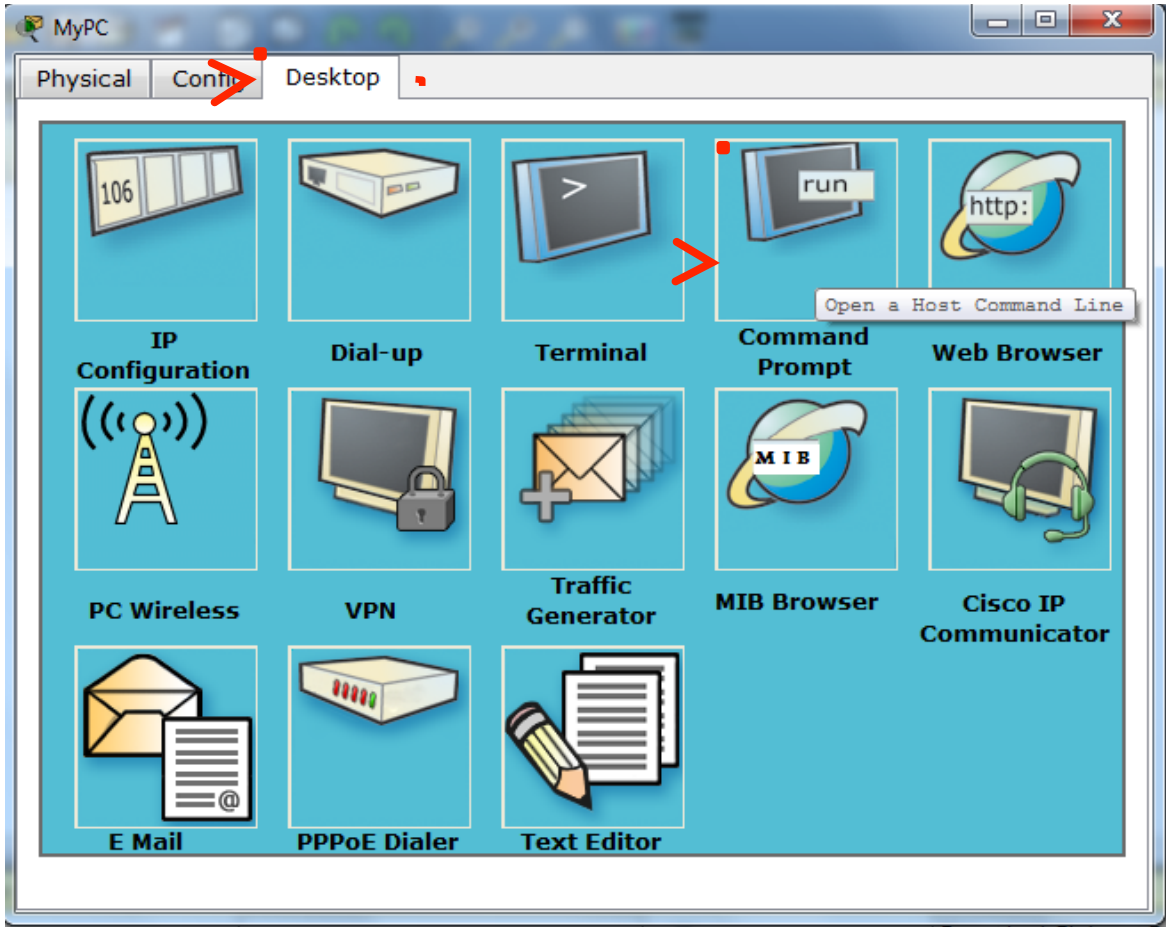
How to Record the Results

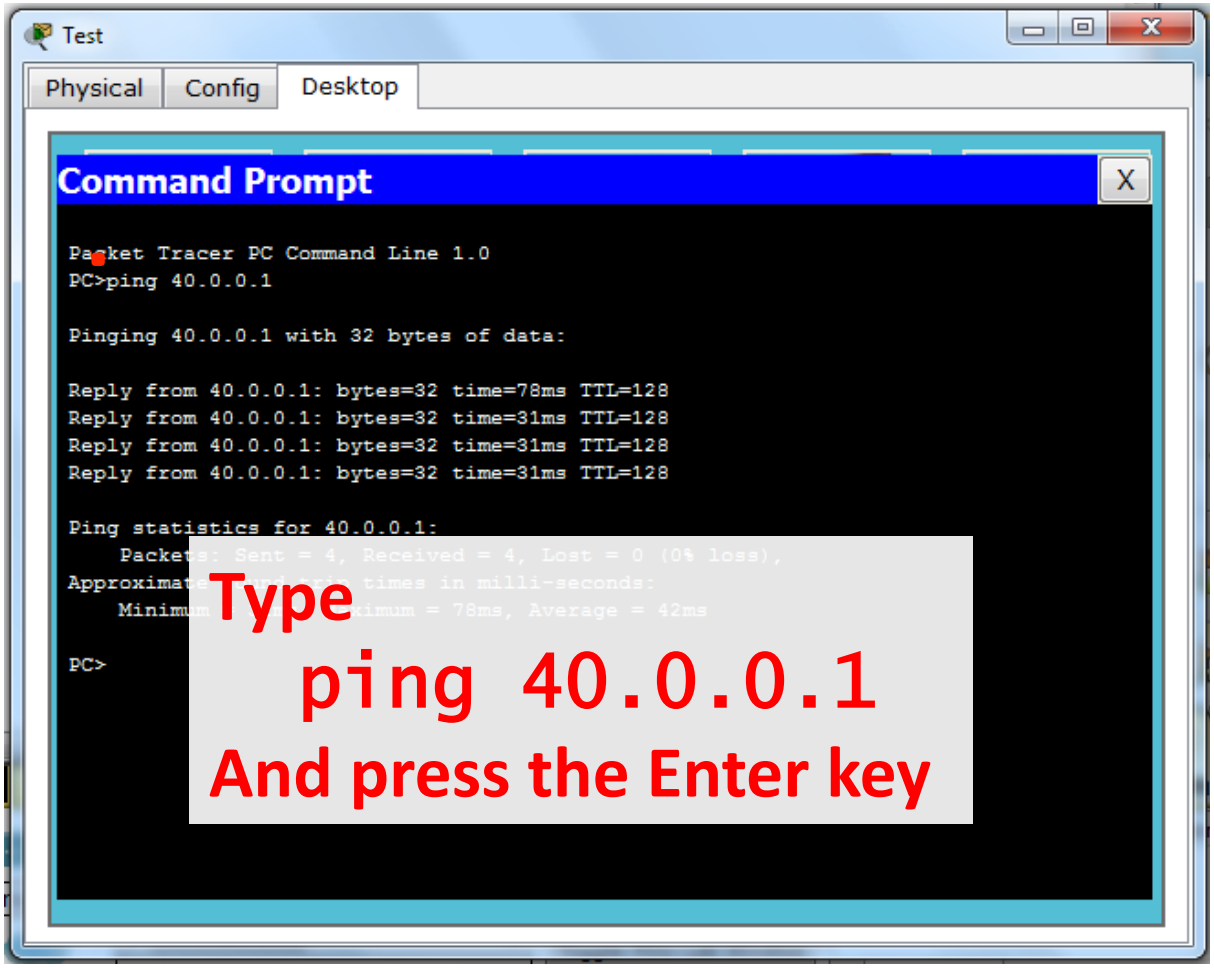
- You can do one of the following
  - Give specific answers to the questions
  - Copy/paste text of the command window
  - Save a screenshot

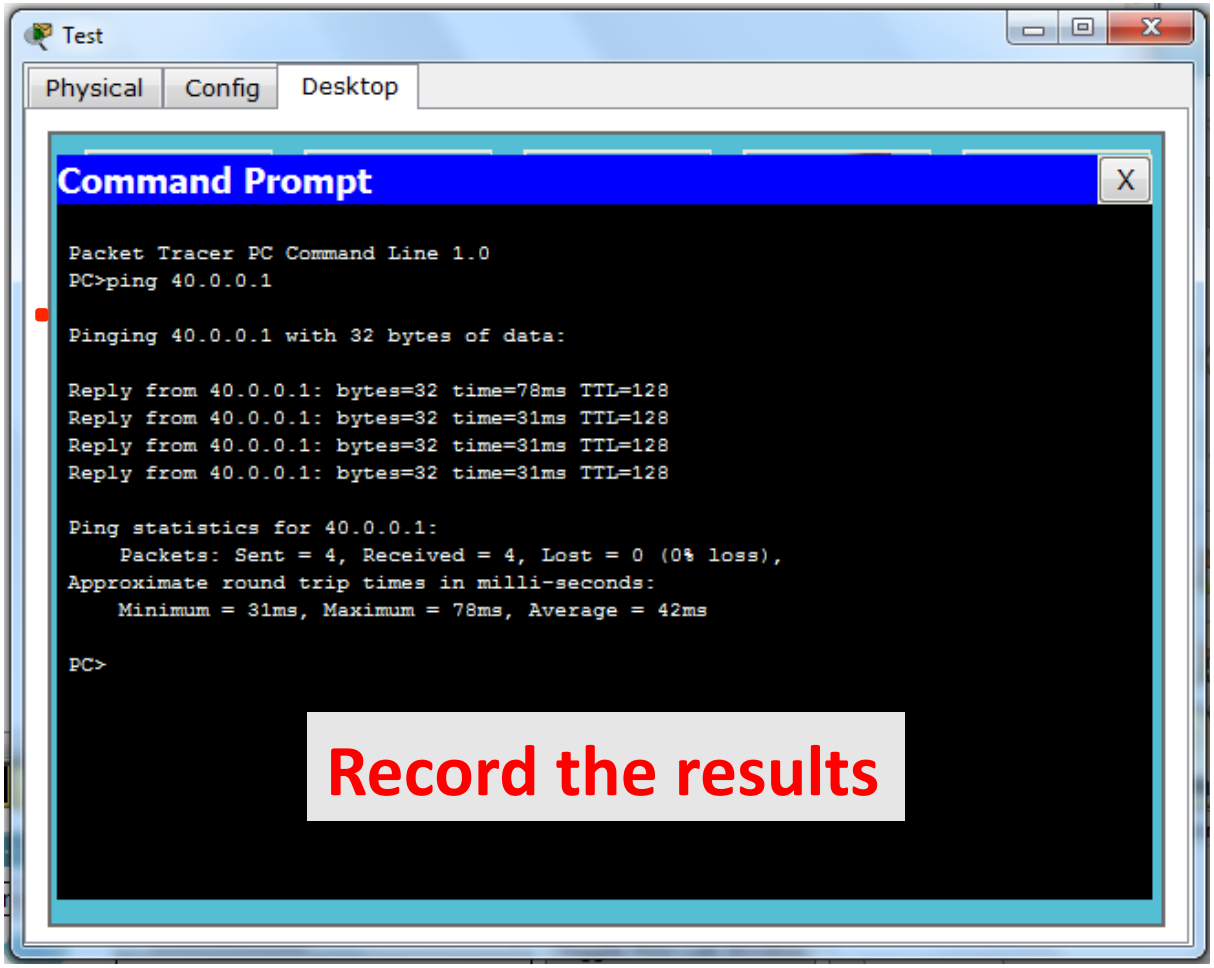
- You're not done . . .
  - After saving this first result result continue on

Run a command prompt for Test






Test
Physical
Config
Desktop
Command Prompt
X
Packet Tracer PC Command Line 1.0
PC>ping 40.0.0.1
Pinging 40.0.0.1 with 32 bytes of data:
Reply from 40.0.0.1: bytes=32 time=78ms TTL=128
Reply from 40.0.0.1: bytes=32 time=31ms TTL=128
Reply from 40.0.0.1: bytes=32 time=31ms TTL=128
Reply from 40.0.0.1: bytes=32 time=31ms TTL=128
Ping statistics for 40.0.0.1:
PC>
Type
ping 40.0.0.1
And press the Enter key


Test
Physical
Config
Desktop
Command Prompt
X
Packet Tracer PC Command Line 1.0
PC>ping 40.0.0.1
Pinging 40.0.0.1 with 32 bytes of data:
Reply from 40.0.0.1: bytes=32 time=78ms TTL=128
Reply from 40.0.0.1: bytes=32 time=31ms TTL=128
Reply from 40.0.0.1: bytes=32 time=31ms TTL=128
Reply from 40.0.0.1: bytes=32 time=31ms TTL=128
Ping statistics for 40.0.0.1:
Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
Minimum = 31ms, Maximum = 78ms, Average = 42ms
PC>
Record the results

What Did You Just Do?

- You **created a simulation** of a simple network.
- You **set the IP addresses** of two PCs.
- You **renamed** the PCs “MyPC” and “Test”.
- You **confirmed** the IP address of MyPC.
- You “**pinged**” MyPC from Test.
- Recorded the results