

## The Internet



### What is our GOAL for this MODULE?

The goal of this module is to learn how information travels on the internet and important devices which make the internet possible.

### What did we ACHIEVE in the class TODAY?

We created a virtual network with the help of Cisco Packet Tracer.


### Which CONCEPTS/CODING BLOCKS did we cover today?

- We learned about the Internet.
- We also download and Install Cisco Packet Tracer.
- We also created network simulation

## How did we DO the activities?

1. Cisco Packet tracer is a free software from Cisco. Sign up for a free account.

Discover and troubleshoot using powerful networking simulation tool.



### Hands-On Practice

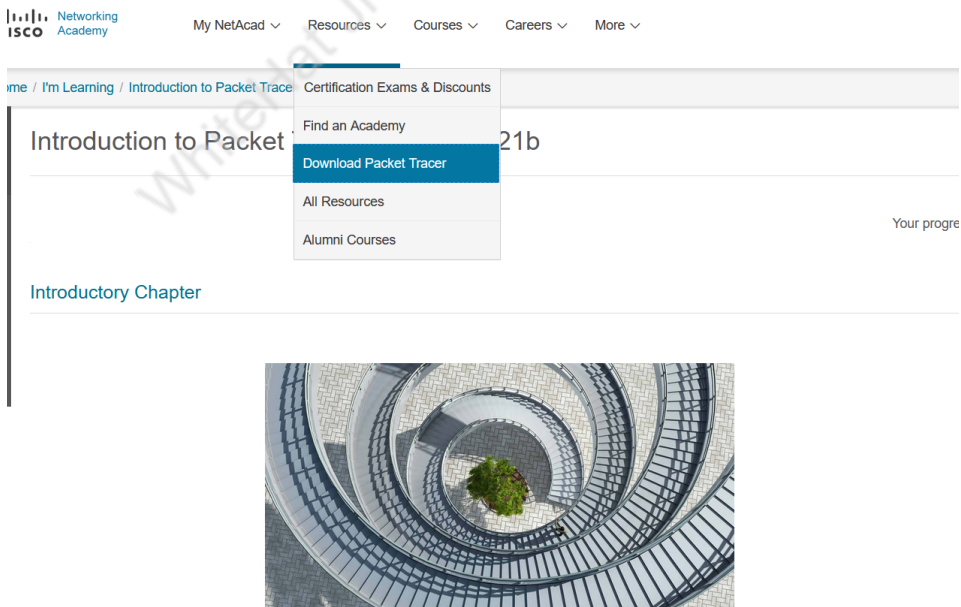
Enroll, download and start learning valuable tips and best practices for using our innovative, virtual simulation tool, Cisco Packet Tracer. This self-paced course is designed for beginners with no prior networking knowledge. It teaches basic operations of the tool with multiple hands-on activities helping you to visualize a network using everyday examples, including Internet of Things (IoT). This Introductory course is extremely helpful for anyone who plans to take one of the Networking Academy courses which utilizes the powerful simulation tool. No prerequisites required!

**You'll Learn These Core Skills:**

- Simulate data interactions traveling through a network.
- Visualize the network in both logical and physical modes.
- Apply skills through practice, using labs and Cisco Packet Tracer activities.
- Develop critical thinking and problem-solving skills.

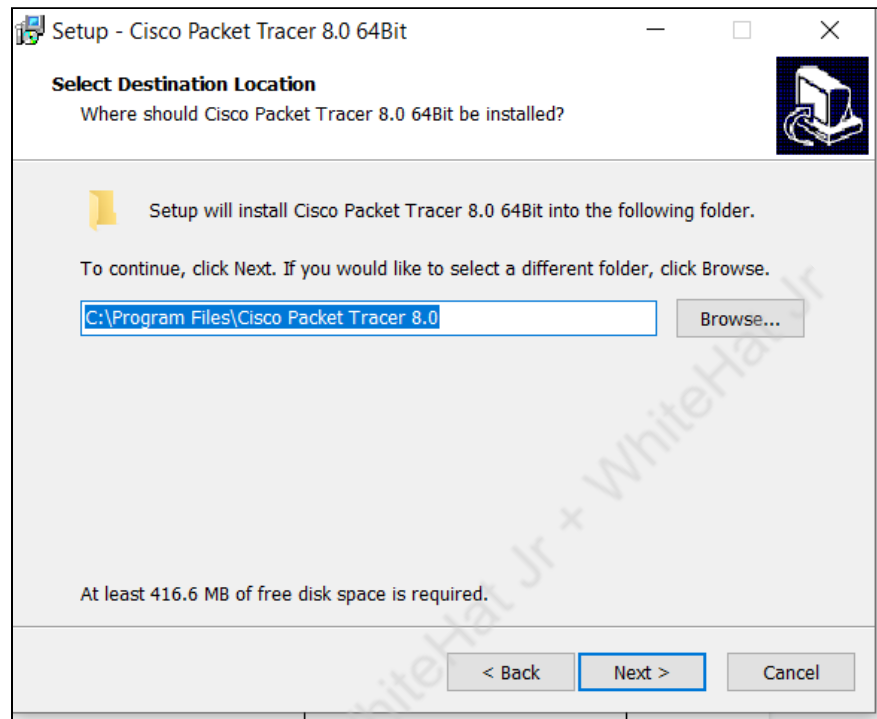
[Sign up today!](#)

2. Download the software.



The screenshot shows the Cisco Networking Academy website. The top navigation bar includes the Cisco logo, 'Networking Academy', and links for 'My NetAcad', 'Resources', 'Courses', 'Careers', and 'More'. A dropdown menu is open under 'Resources', showing options: 'Certification Exams & Discounts', 'Find an Academy', 'Download Packet Tracer' (highlighted), 'All Resources', and 'Alumni Courses'. The main content area shows the 'Introduction to Packet Tracer' course page, with a 'Download Packet Tracer' button visible. Below the course title, there is a section for 'Introductory Chapter' and a large image of a spiral staircase.

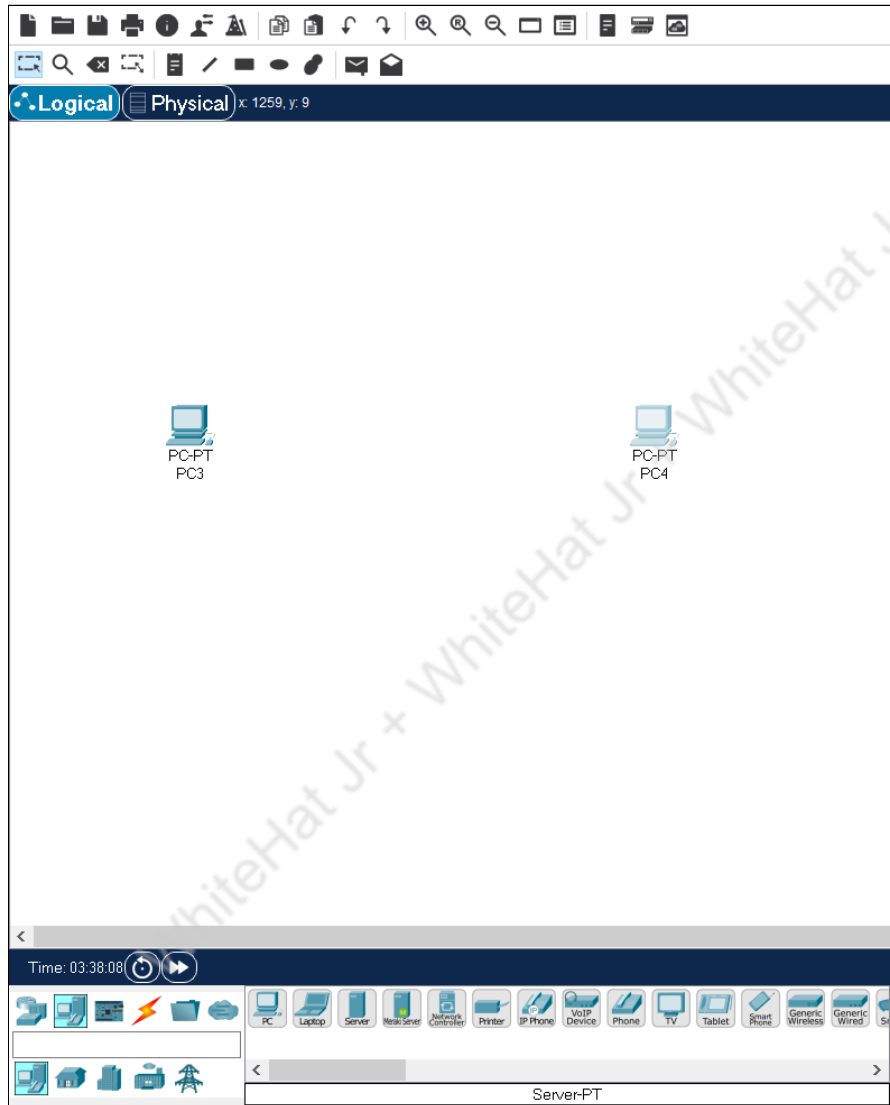
### 3. Install the software



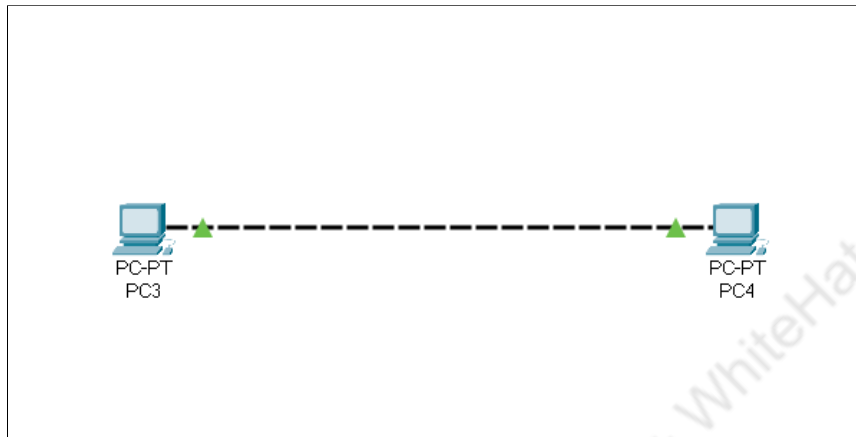
### 4. Choose the end devices tab and from there and select the PC option.



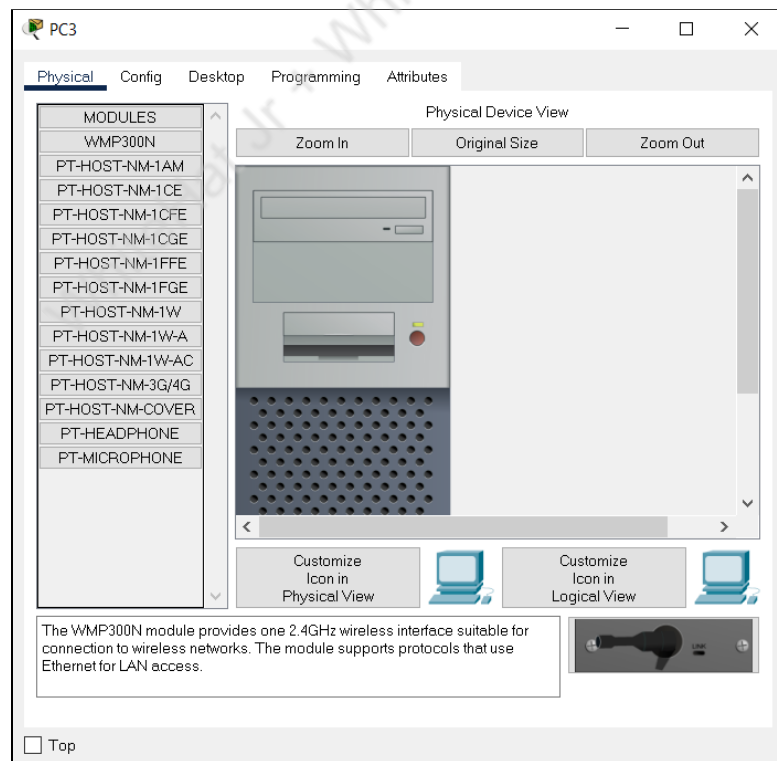
5. Then drag and drop the pc on the empty area of the software.  
Since we need 2 computers, we need to perform this twice.



6. In the connections menu we have a spark logo which will automatically choose the correct cable according to the device. Select this option and click on the first pc after that click on the second PC.



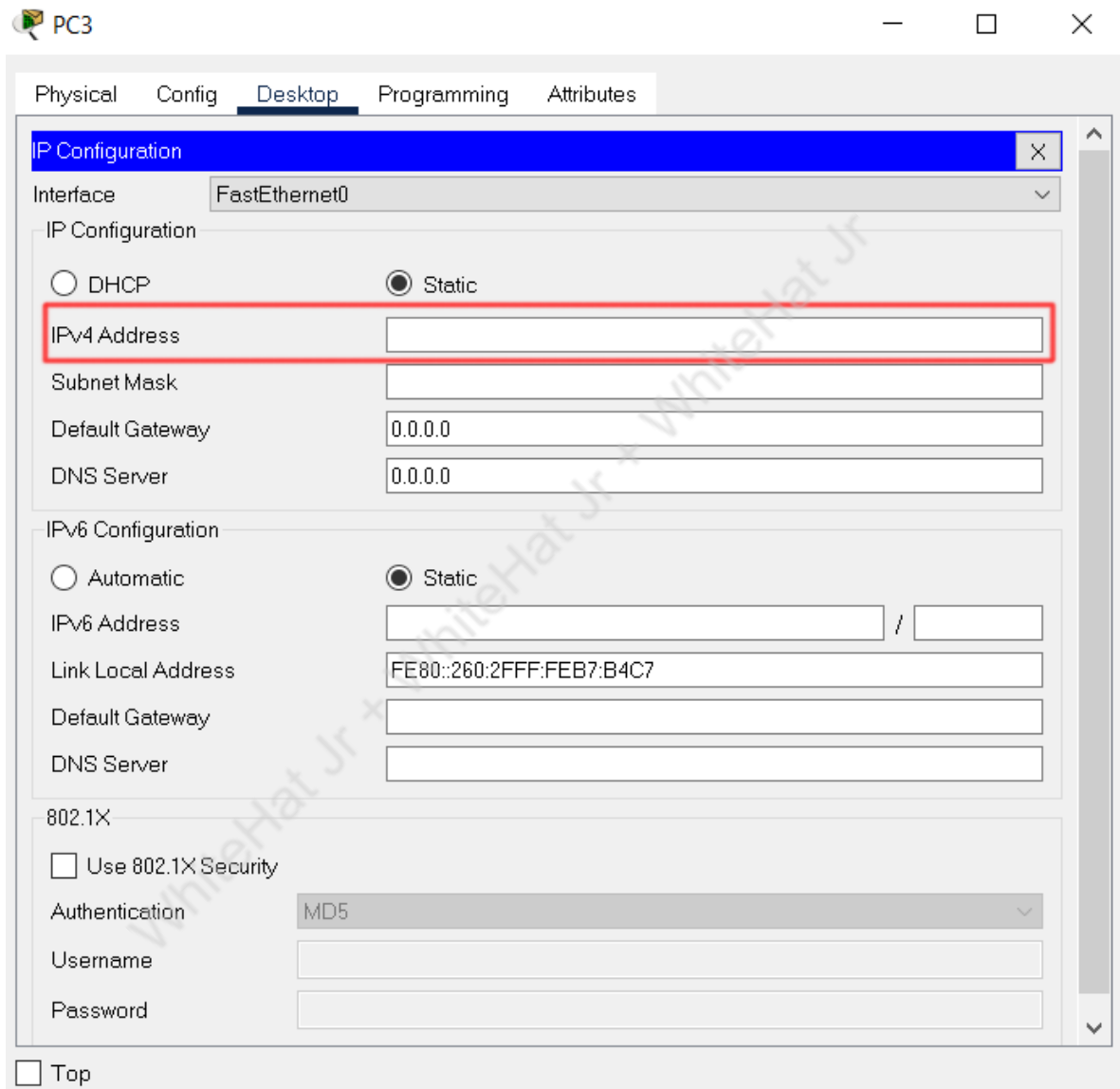
7. Double click on any computer and you can see a window open. This window shows the various options we have for the PC



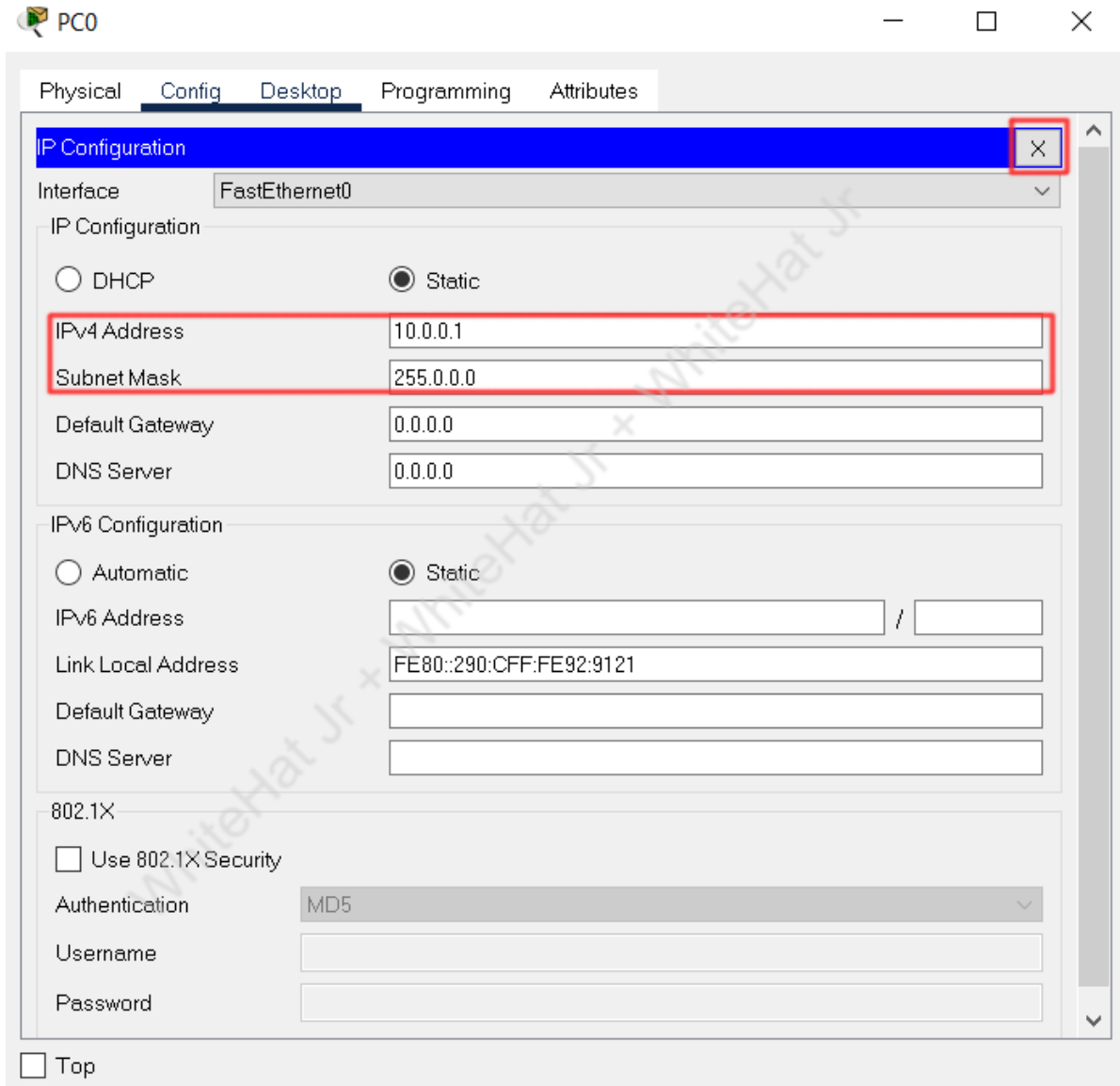
8. Select the desktop and this will show us various options.



9. Set the IP address of the computer and click on the IP configuration option. This will open another tab where we can set the IP address for this computer.



10. In the tab ipv4 address we will write our IP address, we can assign the IP address of our choice. For this PC let's assign 10.0.0.1. Once we assign the IP address, this will automatically set the subnet mask as 255.0.0.0 and close the window.



PC0

Physical Config Desktop Programming Attributes

IP Configuration

Interface: FastEthernet0

IP Configuration

☐ DHCP ☒ Static

IPv4 Address: 10.0.0.1

Subnet Mask: 255.0.0.0

Default Gateway: 0.0.0.0

DNS Server: 0.0.0.0

IPv6 Configuration

☐ Automatic ☒ Static

IPv6 Address: /

Link Local Address: FE80::290:CFF:FE92:9121

Default Gateway:

DNS Server:

802.1X

☐ Use 802.1X Security

Authentication: MD5

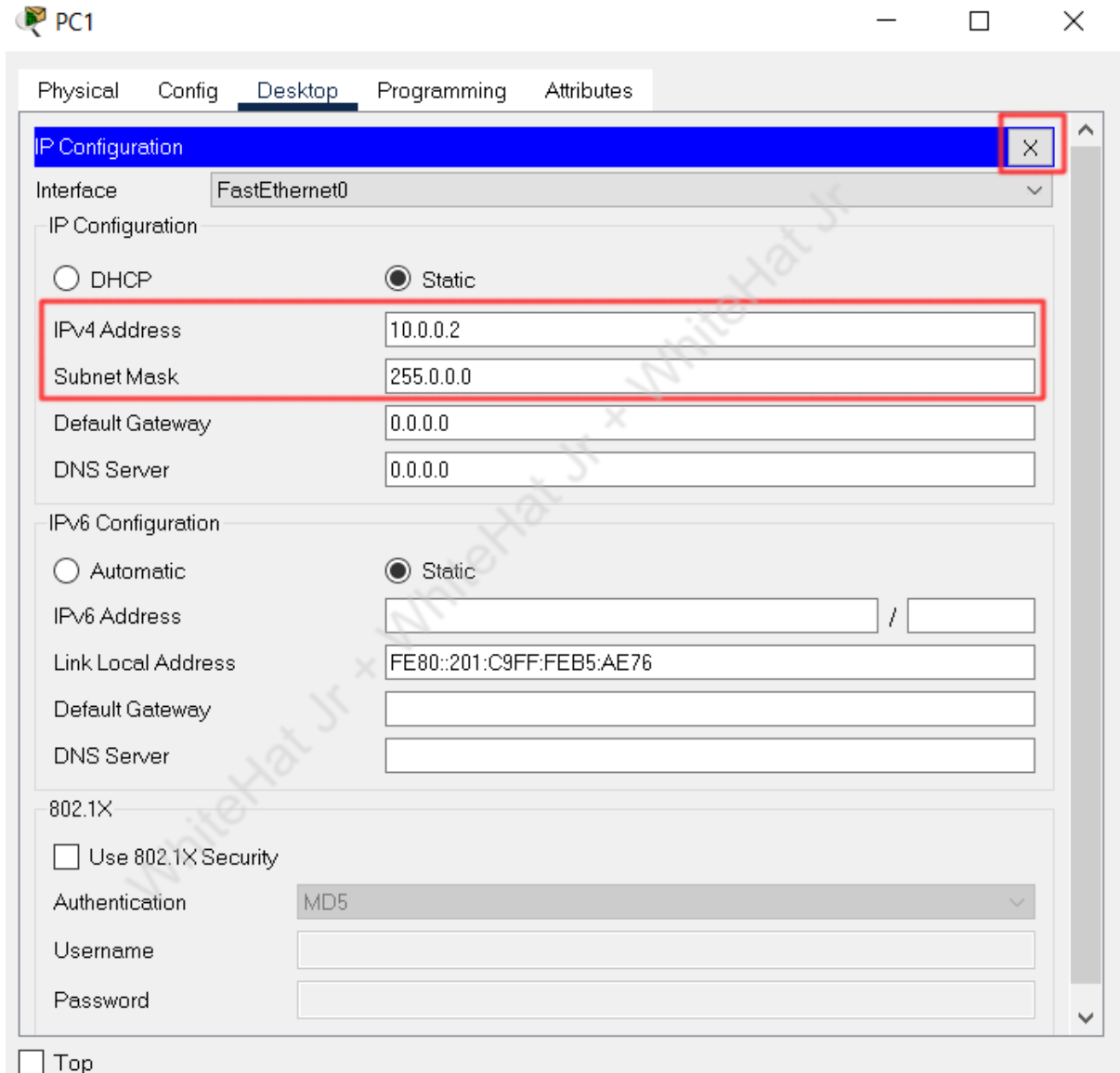
Username:

Password:

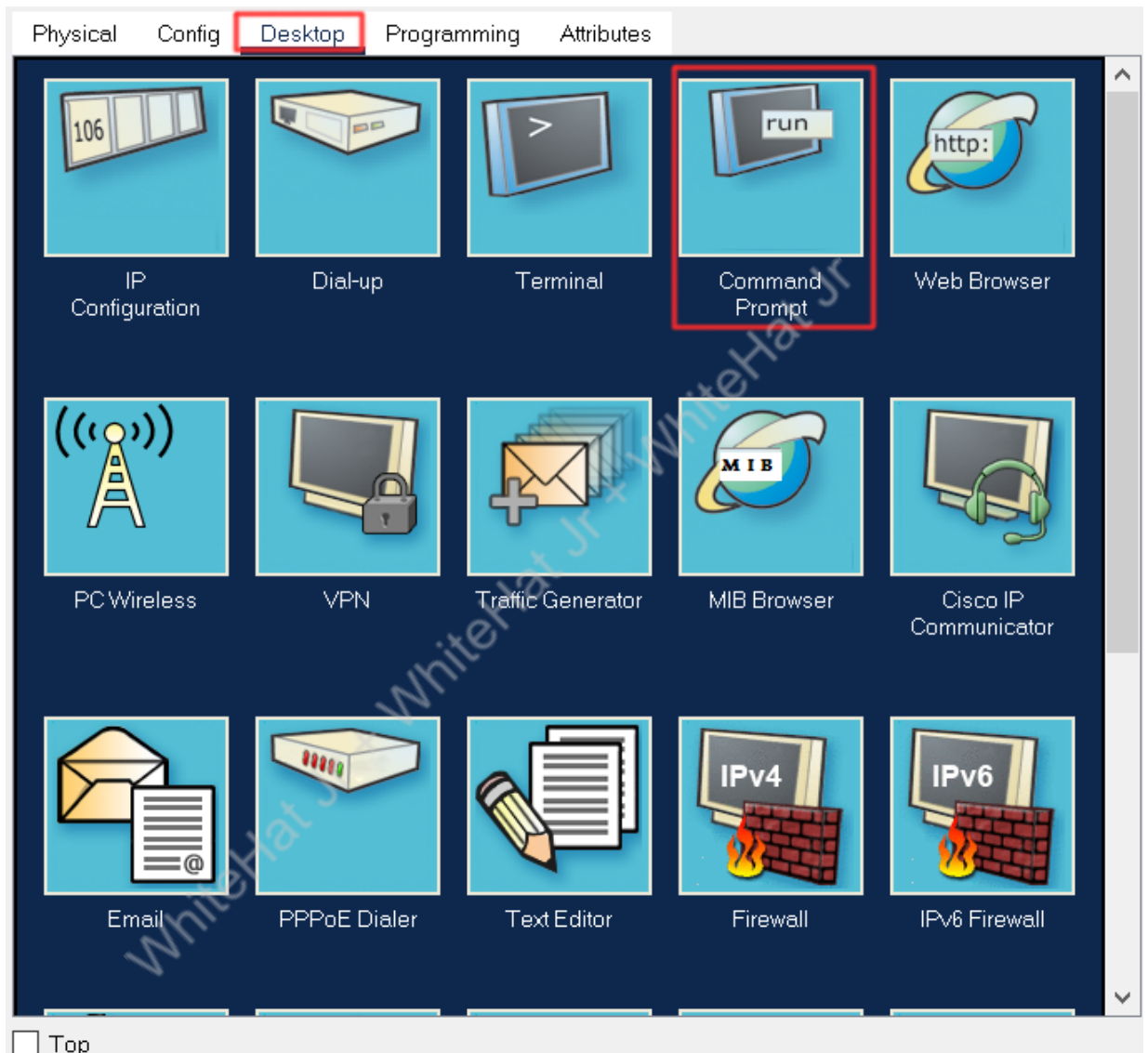
☐ Top



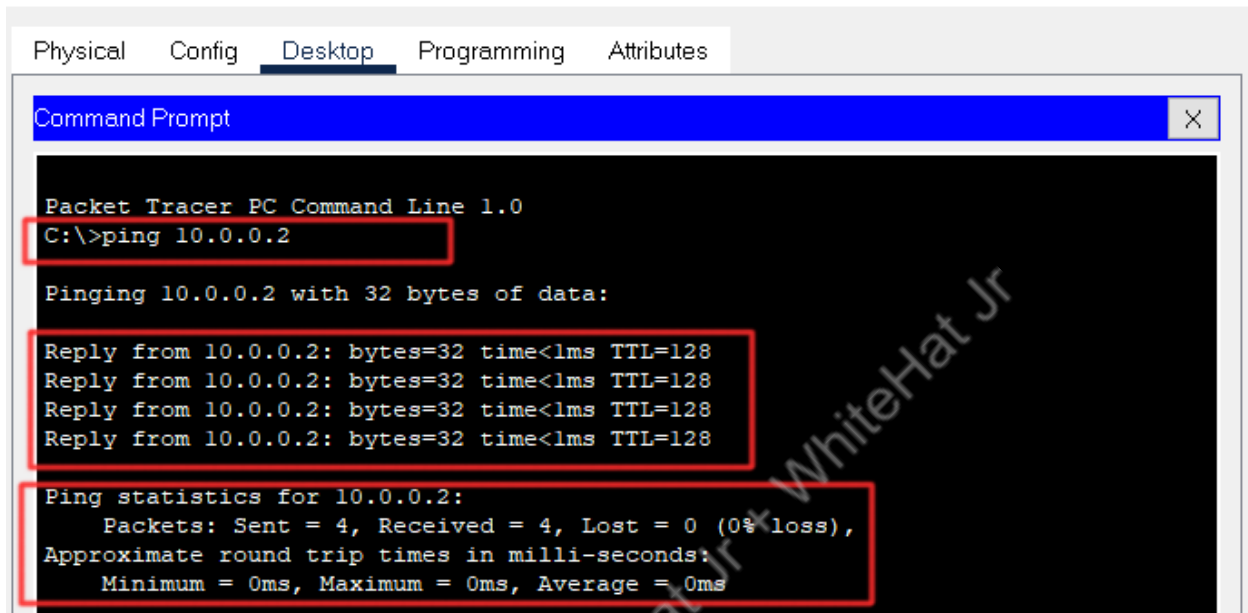
11. Repeat the same thing for the other computer, click on the computer and select the IP configuration option and set the IP as 10.0.0.2 and click on the cross button to close the window.



12. To test whether both computers can communicate with each other or not. Open the Command prompt of the computer and run a command.



13. Run our commands on the terminal. Write ping and then the ip address of the second computer. Such as ping 10.0.0.2



The screenshot shows a Packet Tracer PC Command Line 1.0 window. The 'Desktop' tab is selected. The terminal displays the command 'C:\>ping 10.0.0.2' and its output. The output shows four successful replies from 10.0.0.2 with 32 bytes of data, each taking less than 1ms and having a TTL of 128. The ping statistics show 4 packets sent, 4 received, 0% loss, and 0ms round trip times.

```
Packet Tracer PC Command Line 1.0
C:\>ping 10.0.0.2

Pinging 10.0.0.2 with 32 bytes of data:

Reply from 10.0.0.2: bytes=32 time<1ms TTL=128
Reply from 10.0.0.2: bytes=32 time<1ms TTL=128
Reply from 10.0.0.2: bytes=32 time<1ms TTL=128
Reply from 10.0.0.2: bytes=32 time<1ms TTL=128

Ping statistics for 10.0.0.2:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms
```

We have successfully established the connection between the two computers and tested the speed of the connection using ping.

### What's NEXT?

In the next class, we will learn more about \_\_\_\_\_

### EXTEND YOUR KNOWLEDGE

You can create an account in CPT using this [link](#).