

Computer Networks (CS303)

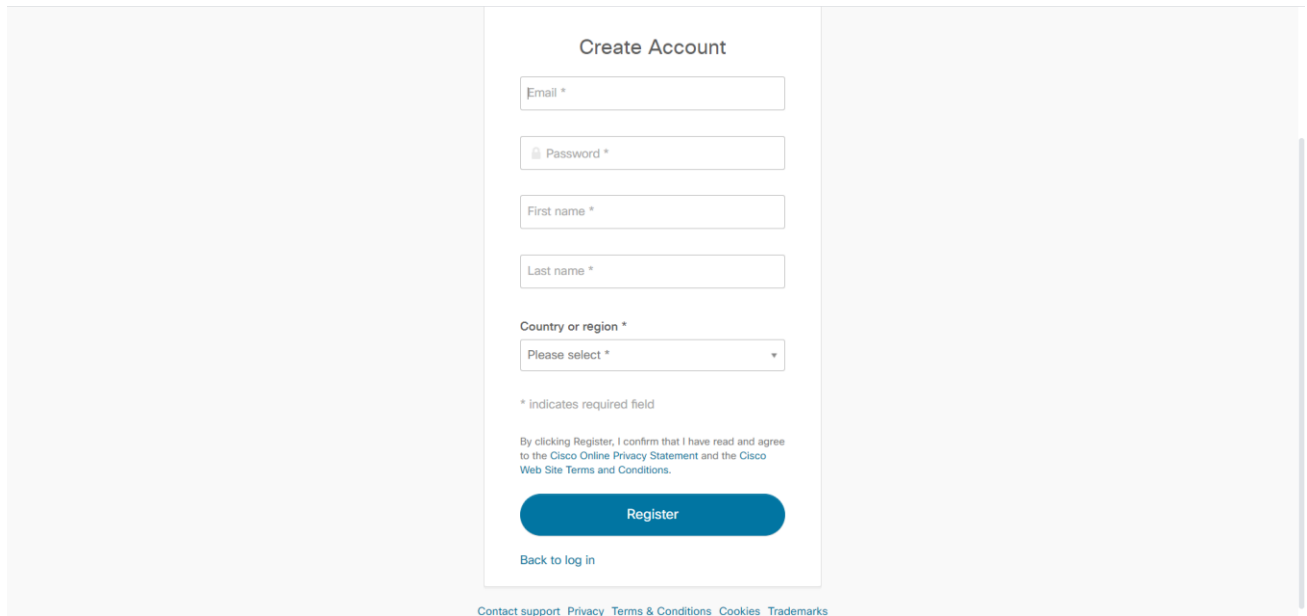
Assignment - 3

U19CS012

Getting Familiar with Cisco Packet Tracer

A.) Installation Steps

1. Sign Up [<https://id.cisco.com/signin/register>]

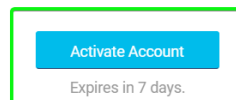


The screenshot shows the 'Create Account' form on the Cisco Identity Engine. It includes input fields for Email, Password, First name, and Last name, all marked as required. There is a dropdown menu for 'Country or region' with the placeholder text 'Please select *'. Below the form, a note states '* indicates required field'. A disclaimer mentions that by clicking 'Register', the user agrees to the Cisco Online Privacy Statement and the Cisco Web Site Terms and Conditions. A blue 'Register' button is prominently displayed, and a link for 'Back to log in' is at the bottom. The footer contains links for 'Contact support', 'Privacy', 'Terms & Conditions', 'Cookies', and 'Trademarks'.

2. Account Activation on Email

Welcome to Cisco!

Please click the button to activate your account.



After activating your account, you can:

- [Login](#) with your email and password.
- Manage your [Cisco account profile](#) and request access to Cisco applications and services.
- [Become a customer](#) by associating a contract number or bill-to ID to your account or [order services](#) directly through our global network of certified partners.
- [Become a partner](#) by associating your account with a partner company or [register your company](#) as a partner.
- Access [supply chain](#) tools and resources.

Visit [help](#) for login, password, and account information.

[Contact support](#) for help accessing your account.

Welcome to Cisco Networking Academy!

To activate your account, please click the button below:

Activate account

TIPS:

- This link is valid for a limited time. If this link is expired, please go to <https://www.netacad.com> and click on Log In/Resend Activation Email to get a new link.
- If you do not see Activate account button above, please copy the following link and paste into your browser:
https://www.netacad.com/portal/saml_login
- If you already have an account, go to <https://www.netacad.com> and click Log In to access your courses.
- Your NetAcad ID is 1028329390. Keep this handy in case you ever need support

Whether you've always been passionate about technology or just discovered IT, there has never been a better time to get started.


Sincerely,
Cisco Networking Academy Team
<https://www.netacad.com>

3. Enroll in this Course [<https://www.netacad.com/courses/packet-tracer/introduction-packet-tracer>]

Packet Tracer

Introduction to Packet Tracer

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!

-  Length: 10 hours
-  Cost: Free*
-  Level: Beginning
-  Learning Type: Online self-paced
-  Achievements: Badge
-  Languages: English, Український

4. Go to this Course "Introduction to Packet Tracer English 0821a" & Click on "Student Support and Resources Page"

Course Home


Grades

Messages

Calendar

Introduction to Packet Tracer English 0821a

Introductory Chapter



First Time in This Course

Student Support and Resources

Activities

External tools

Quizzes

Resources

Find answers to many of your Networking Academy questions:

NetAcad Virtual Assistant

Upcoming events

There are no upcoming events

Go to calendar...

5. Third Row ["Packet Tracer"] in Table will have the Installation Link of the Software

<p>Learn to Navigate this Course</p> <p>Course Navigation Overview</p>	<p>Other short tutorials are located in the online course Help menu.</p>
<p>Join Our Communities</p> <p>Facebook</p> <p>LinkedIn</p>	<p>The Facebook site is where you can meet and engage with other Networking Academy students from around the world.</p> <p>The Cisco Networking Academy LinkedIn site connects you with job postings.</p>
<p>Packet Tracer</p> <p>You can follow this link to obtain your copy of Packet Tracer.</p> <p>Download and install the latest version of Packet Tracer (Student Version).</p>	<p>This course will teach you about Packet Tracer and how to obtain it.</p>

6. Wait Patiently for it to Download [200 MB File]

For more information read the [FAQ](#) and view [tutorials](#)

Windows Desktop Version 8.0.1 English

64 Bit Download

32 Bit Download

Ubuntu Desktop Version 8.0.1 English

64 Bit Download

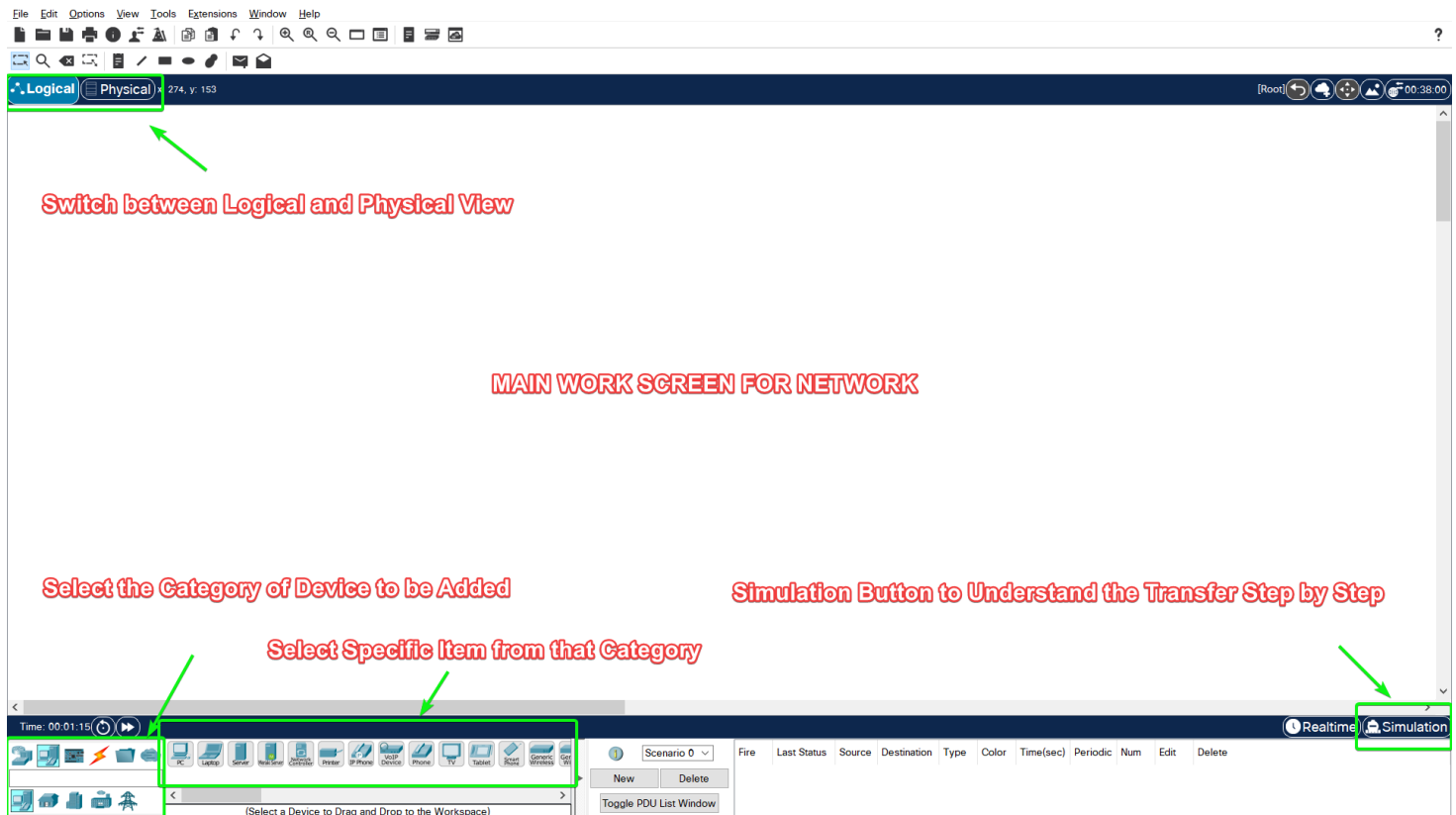
macOS Version 8.0.1 English

64 bit Download

Select Appropriate Dowload according to your OS

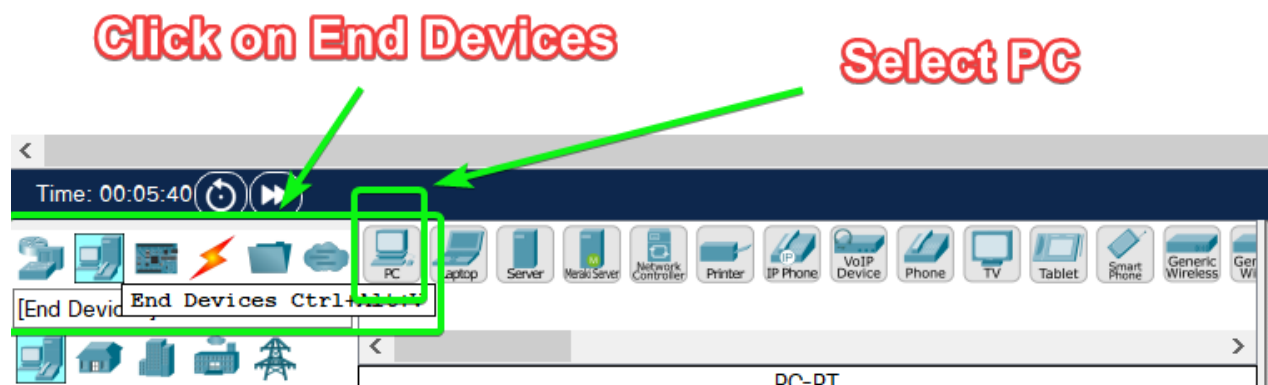
B.) Understanding the Interface

Packet Tracer is a tool that allows you to simulate real networks.

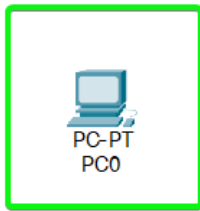


C.) Create Simple Network of 2 Computers

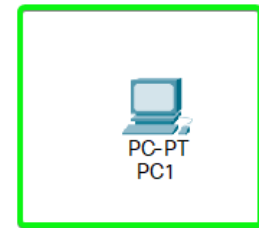
Step 1



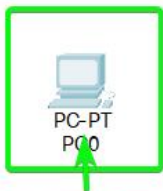
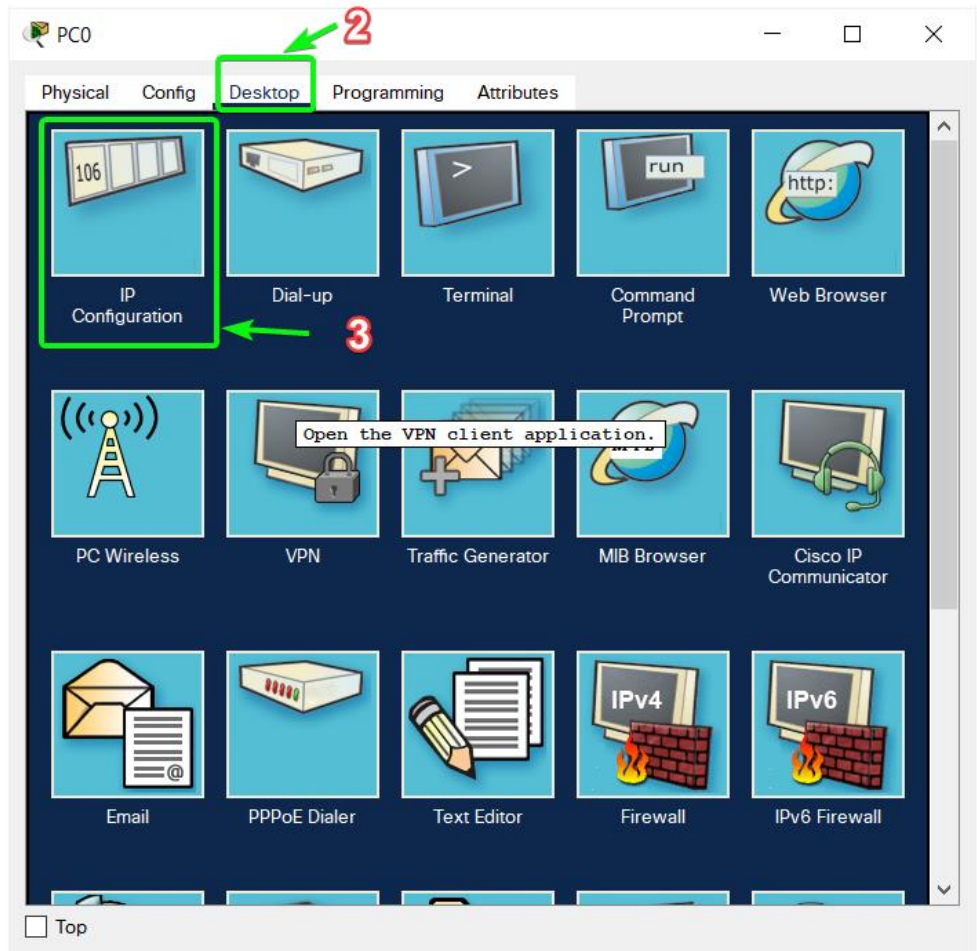
Step 2



Place 2 Computers

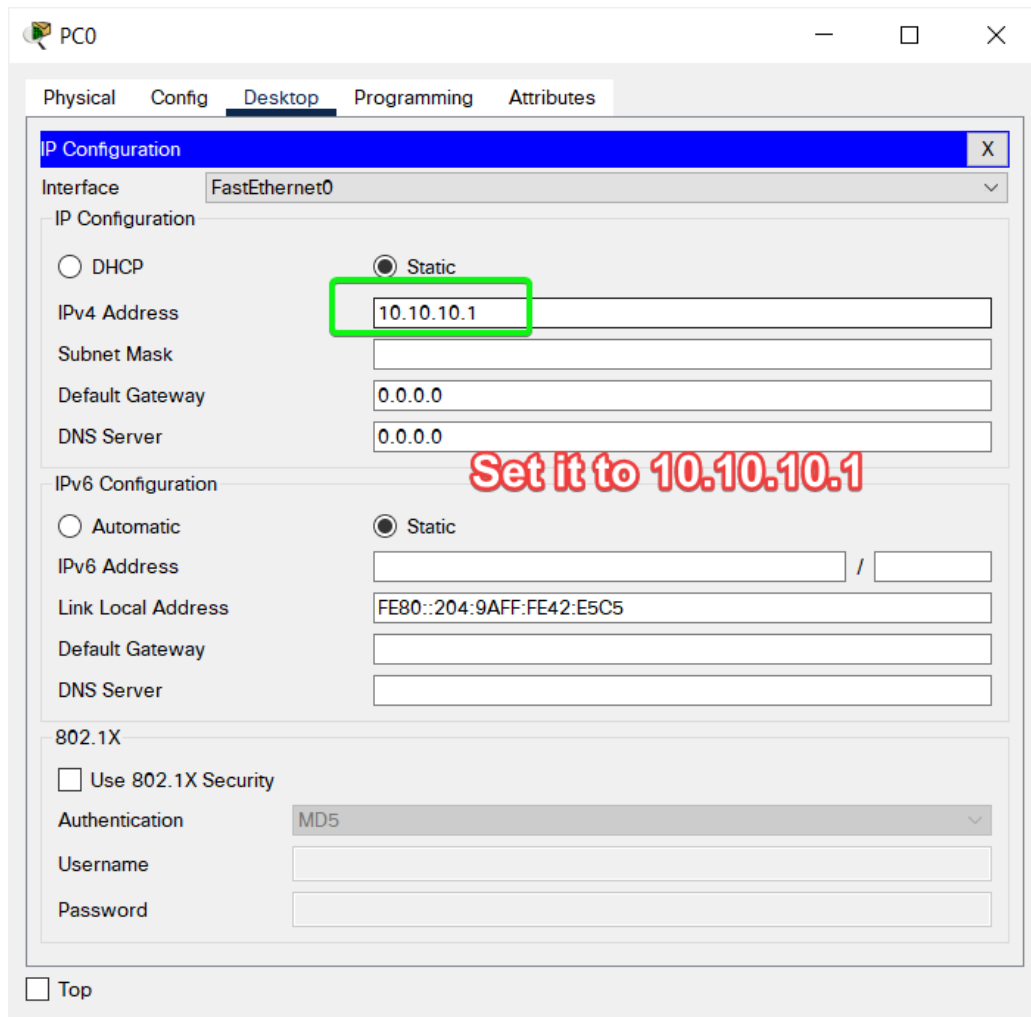


Step 3: IP Configuration



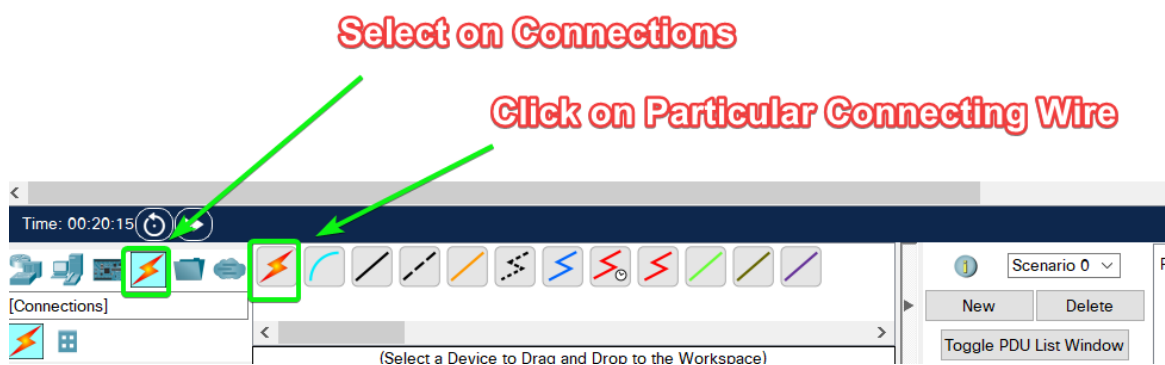
1 - Left Click

Step 4: Set IPv4 Address



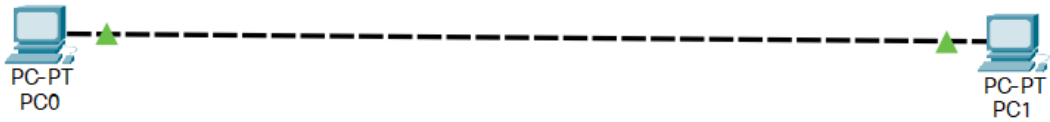
[Do Similar Step of Setting IPv4 Address for Other Devices as well]

Step 5: Select Connecting Wire



Step 6: Establish Connection

Click on One Node and then Select second Node



Step 7: Hover Over and Check if Link is Up

Hover Over

Device Name: PC0
Device Model: PC-PT

We Get all Info of that Device

Port	Link	IP Address	IPv6 Address	MAC Address
FastEthernet0	Up	10.10.10.1/8	<not set>	0004.9A42.E5C5
Bluetooth	Down	<not set>	<not set>	00D0.977D.C663

Gateway: <not set>
DNS Server: <not set>
Line Number: <not set>

Physical Location: Intercity > Home City > Corporate Office > PC0

Step 8: Ping the Other Computer

1 - Left Click

2

3

PC0

Physical Config Desktop Programming Attributes

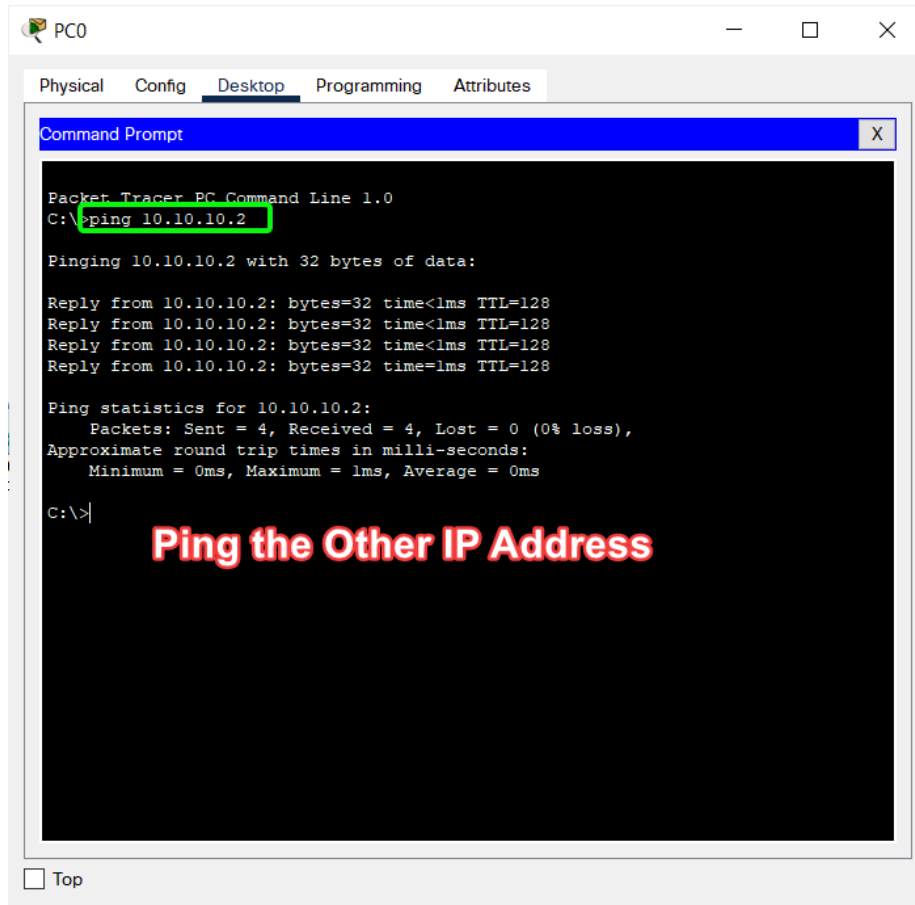
IP Configuration Dial-up Terminal Command Prompt Web Browser

PC Wireless VPN Traffic Generator MIB Browser Cisco IP Communicator

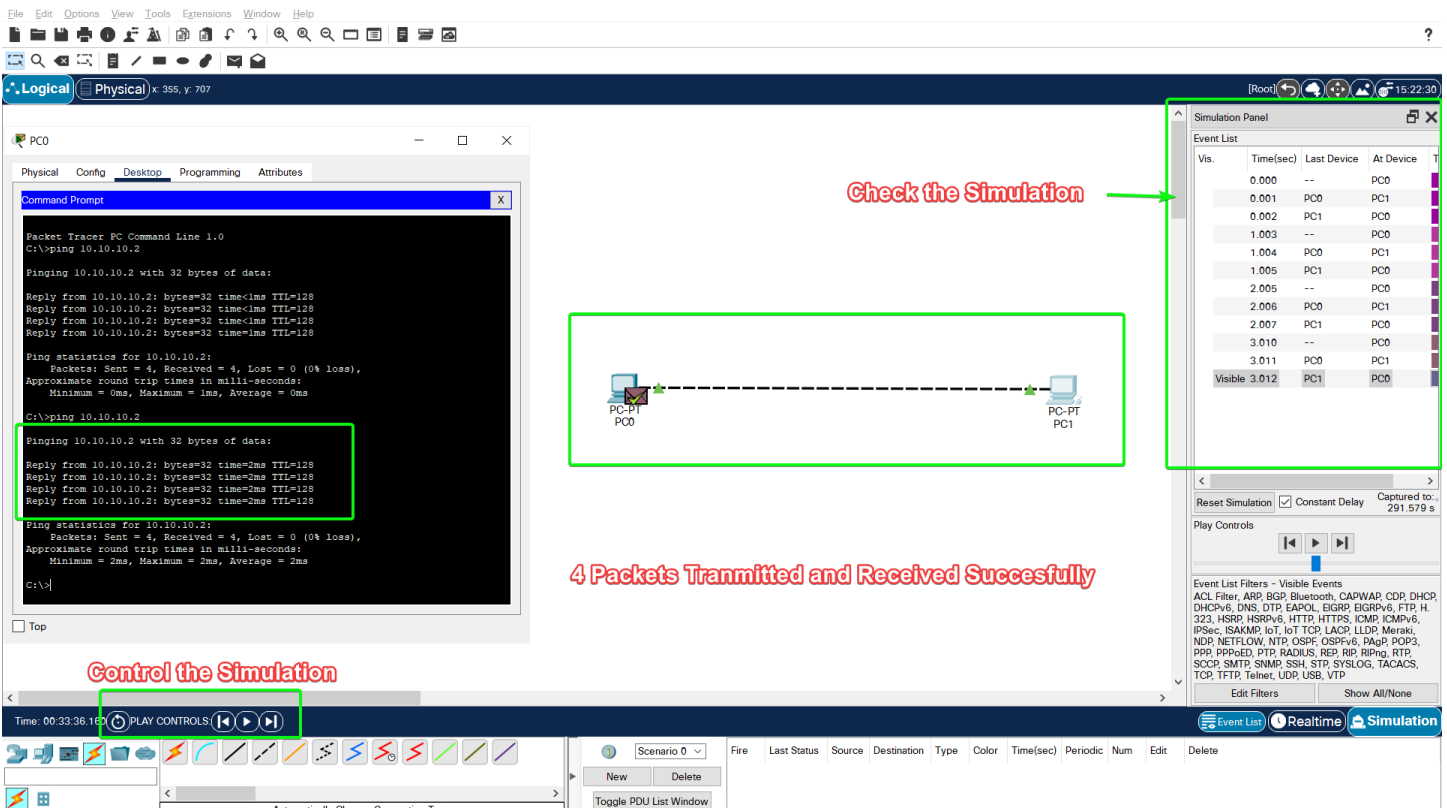
Email PPPoE Dialer Text Editor Firewall IPv6 Firewall

Top

Step 9: Write Command

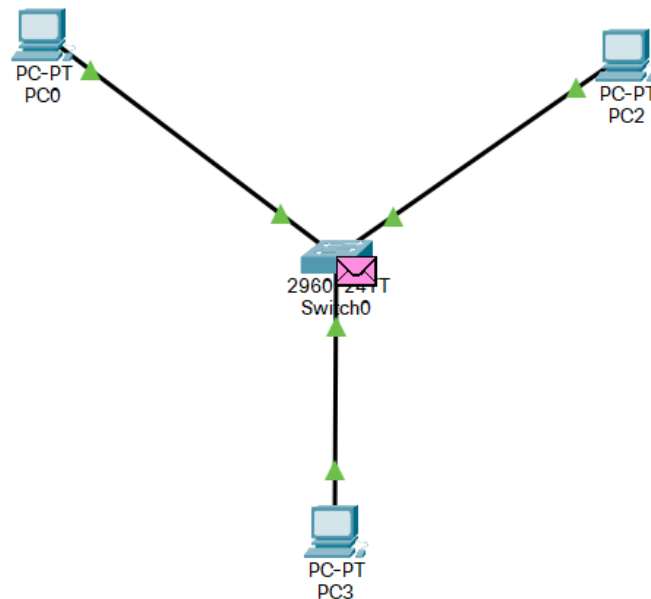


Step 10: You can also see the Step By Step Transfer Using the **Simulation** Button



D.) Create Simple Network of 3 Computers & Switch

Step 1: Draw the Below Shown Network



Step 2: Send Ping Request to another Node [Simulation]

Packet ready to be sent

The screenshot displays the Packet Tracer simulation environment. On the left, a 'PC0' window is open, showing a 'Command Prompt' with the following output:

```
Packet Tracer PC Command Line 1.0
C:\>ping 10.10.10.2

Pinging 10.10.10.2 with 32 bytes of data:

Reply from 10.10.10.2: bytes=32 time=10ms TTL=128
Reply from 10.10.10.2: bytes=32 time<1ms TTL=128
Reply from 10.10.10.2: bytes=32 time<1ms TTL=128
Reply from 10.10.10.2: bytes=32 time=9ms TTL=128

Ping statistics for 10.10.10.2:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 10ms, Average = 4ms

C:\>ping 10.10.10.2

Pinging 10.10.10.2 with 32 bytes of data:
|
```

The network diagram in the center shows the same topology as Step 1. On the right, the 'Simulation Panel' is visible, showing an 'Event List' with a single event: 'Visible 0.000' at device 'PC0'. The 'Play Controls' section shows the simulation is running. The bottom status bar indicates the time is 00:01:30.539 and the simulation is in 'Realtime' mode.

Packet Sent via Router

The screenshot shows a network simulation in Wireshark. A PC window on the left displays a Command Prompt with the following output:

```
Pinging 10.10.10.2 with 32 bytes of data:
Reply from 10.10.10.2: bytes=32 time=10ms TTL=128
Reply from 10.10.10.2: bytes=32 time<1ms TTL=128
Reply from 10.10.10.2: bytes=32 time<1ms TTL=128
Reply from 10.10.10.2: bytes=32 time=9ms TTL=128

Ping statistics for 10.10.10.2:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 10ms, Average = 4ms

C:\>ping 10.10.10.2

Pinging 10.10.10.2 with 32 bytes of data:
Reply from 10.10.10.2: bytes=32 time=4ms TTL=128
Reply from 10.10.10.2: bytes=32 time=4ms TTL=128
Reply from 10.10.10.2: bytes=32 time=4ms TTL=128
Reply from 10.10.10.2: bytes=32 time=4ms TTL=128

Ping statistics for 10.10.10.2:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 4ms, Maximum = 4ms, Average = 4ms

C:\>ping 10.10.10.2

Pinging 10.10.10.2 with 32 bytes of data:
```

The network diagram shows a central 2960 24TT Switch0 connected to three PC-PT devices: PC0, PC2, and PC3. The Event List on the right shows a series of STP and ICMP events. The Simulation Panel at the bottom right shows the current time as 00:02:10.52s and the packet being sent is an ICMP packet.

Packet Received at another Node

The screenshot shows the same network simulation in Wireshark, but the packet has been received at another node. The PC window on the left displays the same Command Prompt output as before. The network diagram shows the same topology. The Event List on the right shows a series of STP and ICMP events. The Simulation Panel at the bottom right shows the current time as 00:02:10.52s and the packet being received is an ICMP packet.

Packet Send from another Node to Switch

The screenshot shows the Wireshark network simulation interface. On the left, a PC0 window displays a Command Prompt with the following output:

```
Pinging 10.10.10.2 with 32 bytes of data:
Reply from 10.10.10.2: bytes=32 time=10ms TTL=128
Reply from 10.10.10.2: bytes=32 time<1ms TTL=128
Reply from 10.10.10.2: bytes=32 time<1ms TTL=128
Reply from 10.10.10.2: bytes=32 time=9ms TTL=128

Ping statistics for 10.10.10.2:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 10ms, Average = 4ms

C:\>ping 10.10.10.2

Pinging 10.10.10.2 with 32 bytes of data:
Reply from 10.10.10.2: bytes=32 time=4ms TTL=128
Reply from 10.10.10.2: bytes=32 time=4ms TTL=128
Reply from 10.10.10.2: bytes=32 time=4ms TTL=128
Reply from 10.10.10.2: bytes=32 time=4ms TTL=128

Ping statistics for 10.10.10.2:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 4ms, Maximum = 4ms, Average = 4ms

C:\>ping 10.10.10.2

Pinging 10.10.10.2 with 32 bytes of data:
Reply from 10.10.10.2: bytes=32 time=4ms TTL=128
```

The network diagram shows PC0, PC1, PC2, and PC3 connected to a central 2960 24TT Switch0. The Event List on the right shows a series of STP and ICMP events. The bottom status bar indicates the simulation is running in Realtime mode.

Packet Received Successfully

The screenshot shows the Wireshark network simulation interface. On the left, a PC0 window displays a Command Prompt with the following output:

```
Pinging 10.10.10.2 with 32 bytes of data:
Reply from 10.10.10.2: bytes=32 time=10ms TTL=128
Reply from 10.10.10.2: bytes=32 time<1ms TTL=128
Reply from 10.10.10.2: bytes=32 time<1ms TTL=128
Reply from 10.10.10.2: bytes=32 time=9ms TTL=128

Ping statistics for 10.10.10.2:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 10ms, Average = 4ms

C:\>ping 10.10.10.2

Pinging 10.10.10.2 with 32 bytes of data:
Reply from 10.10.10.2: bytes=32 time=4ms TTL=128
Reply from 10.10.10.2: bytes=32 time=4ms TTL=128
Reply from 10.10.10.2: bytes=32 time=4ms TTL=128
Reply from 10.10.10.2: bytes=32 time=4ms TTL=128

Ping statistics for 10.10.10.2:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 4ms, Maximum = 4ms, Average = 4ms

C:\>ping 10.10.10.2

Pinging 10.10.10.2 with 32 bytes of data:
Reply from 10.10.10.2: bytes=32 time=4ms TTL=128
```

The network diagram shows PC0, PC1, PC2, and PC3 connected to a central 2960 24TT Switch0. The Event List on the right shows a series of STP and ICMP events. The bottom status bar indicates the simulation is running in Realtime mode.

[Process Repeats for Remaining 3 Packets]

Step 3: All 4 Packets Transferred and Received Successfully!

The screenshot displays the Cisco Packet Tracer interface. On the left, a PC's command prompt shows the following output:

```
Packet Tracer PC Command Line 1.0
C:\>ping 10.10.10.2

Pinging 10.10.10.2 with 32 bytes of data:

Reply from 10.10.10.2: bytes=32 time=10ms TTL=128
Reply from 10.10.10.2: bytes=32 time<1ms TTL=128
Reply from 10.10.10.2: bytes=32 time<1ms TTL=128
Reply from 10.10.10.2: bytes=32 time=9ms TTL=128

Ping statistics for 10.10.10.2:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 10ms, Average = 4ms

C:\>ping 10.10.10.2

Pinging 10.10.10.2 with 32 bytes of data:

Reply from 10.10.10.2: bytes=32 time=4ms TTL=128
Reply from 10.10.10.2: bytes=32 time=4ms TTL=128
Reply from 10.10.10.2: bytes=32 time=4ms TTL=128
Reply from 10.10.10.2: bytes=32 time=4ms TTL=128

Ping statistics for 10.10.10.2:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 4ms, Maximum = 4ms, Average = 4ms

C:\>
```

The network diagram shows a central switch (2960 24TT Switch0) connected to three PCs (PC0, PC-PT PC2, and PC-PT PC3). The event list on the right shows the following events:

Vis.	Time(sec)	Last Device	At Device	Type
	2.018	--	PC0	ICMP
	2.017	PC0	Switch0	ICMP
	2.018	Switch0	PC2	ICMP
	2.019	PC2	Switch0	ICMP
	2.020	Switch0	PC0	ICMP
	3.022	--	PC0	ICMP
	3.023	PC0	Switch0	ICMP
	3.024	Switch0	PC2	ICMP
	3.025	PC2	Switch0	ICMP
	3.026	Switch0	PC0	ICMP
	3.997	--	Switch0	STP
	3.998	Switch0	PC0	STP
	3.998	Switch0	PC2	STP
	3.998	Switch0	PC3	STP
	5.994	--	Switch0	STP
Visible	5.995	Switch0	PC0	STP
Visible	5.995	Switch0	PC2	STP
Visible	5.995	Switch0	PC3	STP

The simulation panel shows the event list, reset simulation button, and play controls. The time is 00:01:36.534.

In this Practical Class, we Installed Cisco Packet Tracer and Got Familiar with its Interface.

We also Built Two Simple Networks and Tested it's Functionality using Simulator.

SUBMITTED BY:

U19CS012

BHAGYA VINOD RANA