FACULTY OF INFORMATION TECHNOLOGY
DEPARTMENT OF NETWORKS AND INFORMATION SYSTEMS

CHAPTER 1

Practice

Main Objectives

- A brief look at the Cisco Packet Tracer tool
- Introduction to Configuration Wizard
- Building network topology
- Configure the device's IP address
- Using the "Ping" command

CONTENTS

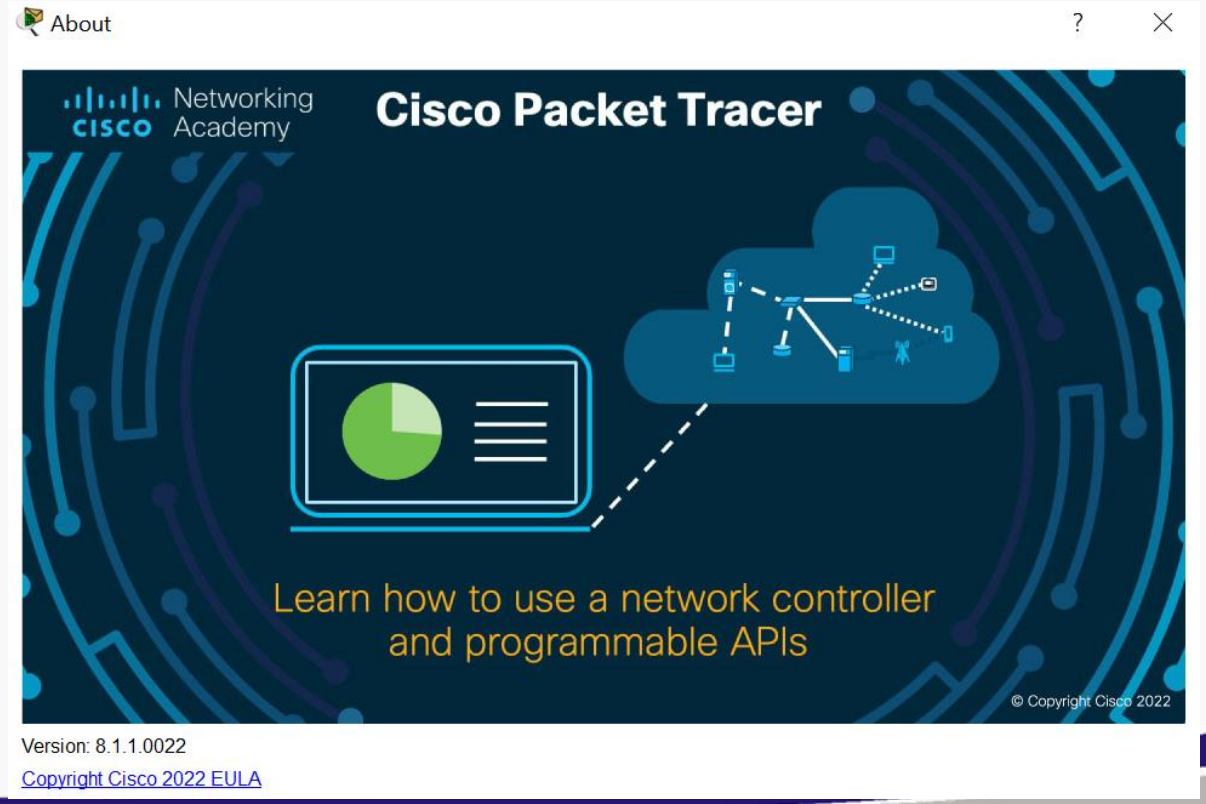
- **Part 1**: Cisco Packet Tracer Overview
- **Part 2**: Equipment in the lab
- **Part 3**: Practice

Cisco Packet Tracer Overview

Packet Tracer - What is it?

Packet Tracer:

- a networking technology teaching and learning software developed by Cisco Networking Academy
- used to illustrate how computer networks work

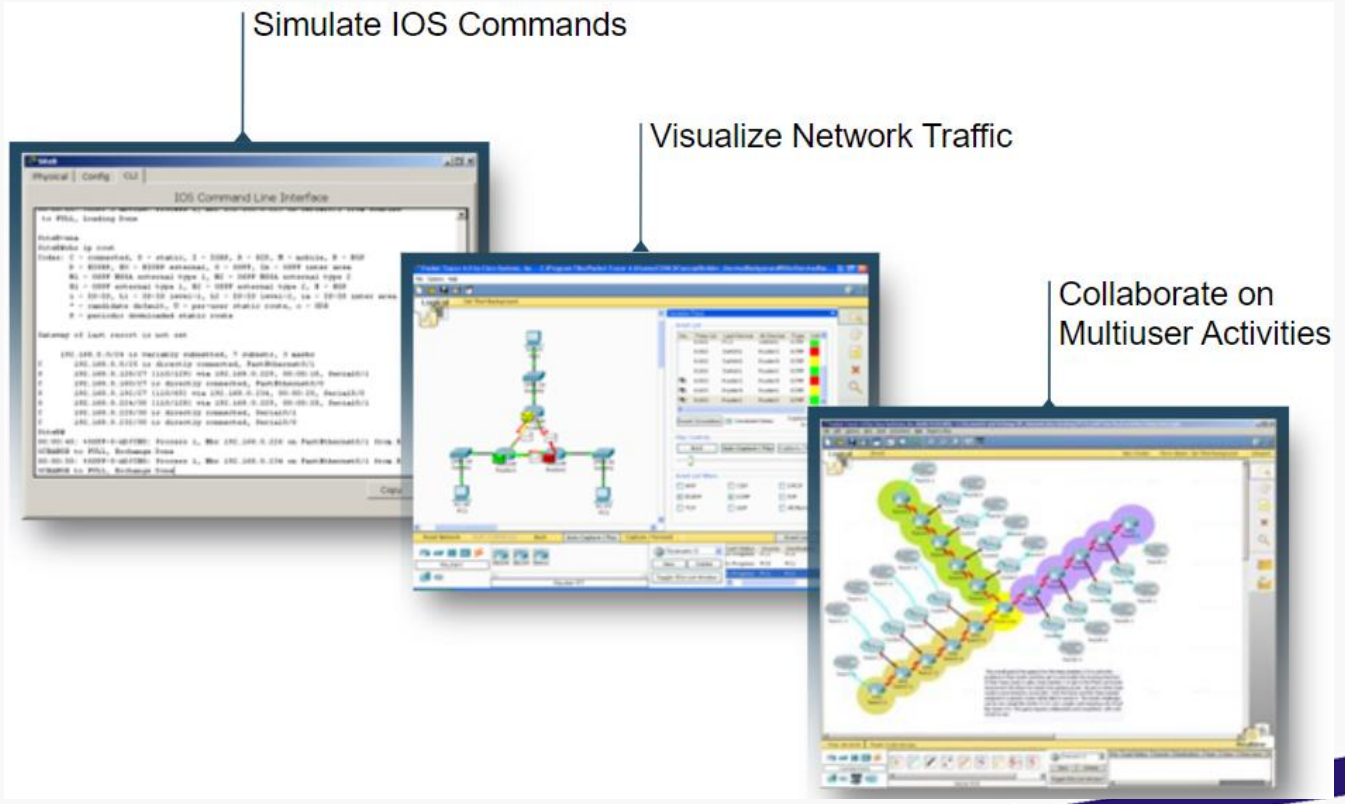


Cisco Packet Tracer Overview

Packet Tracer - Key Features

Main features:

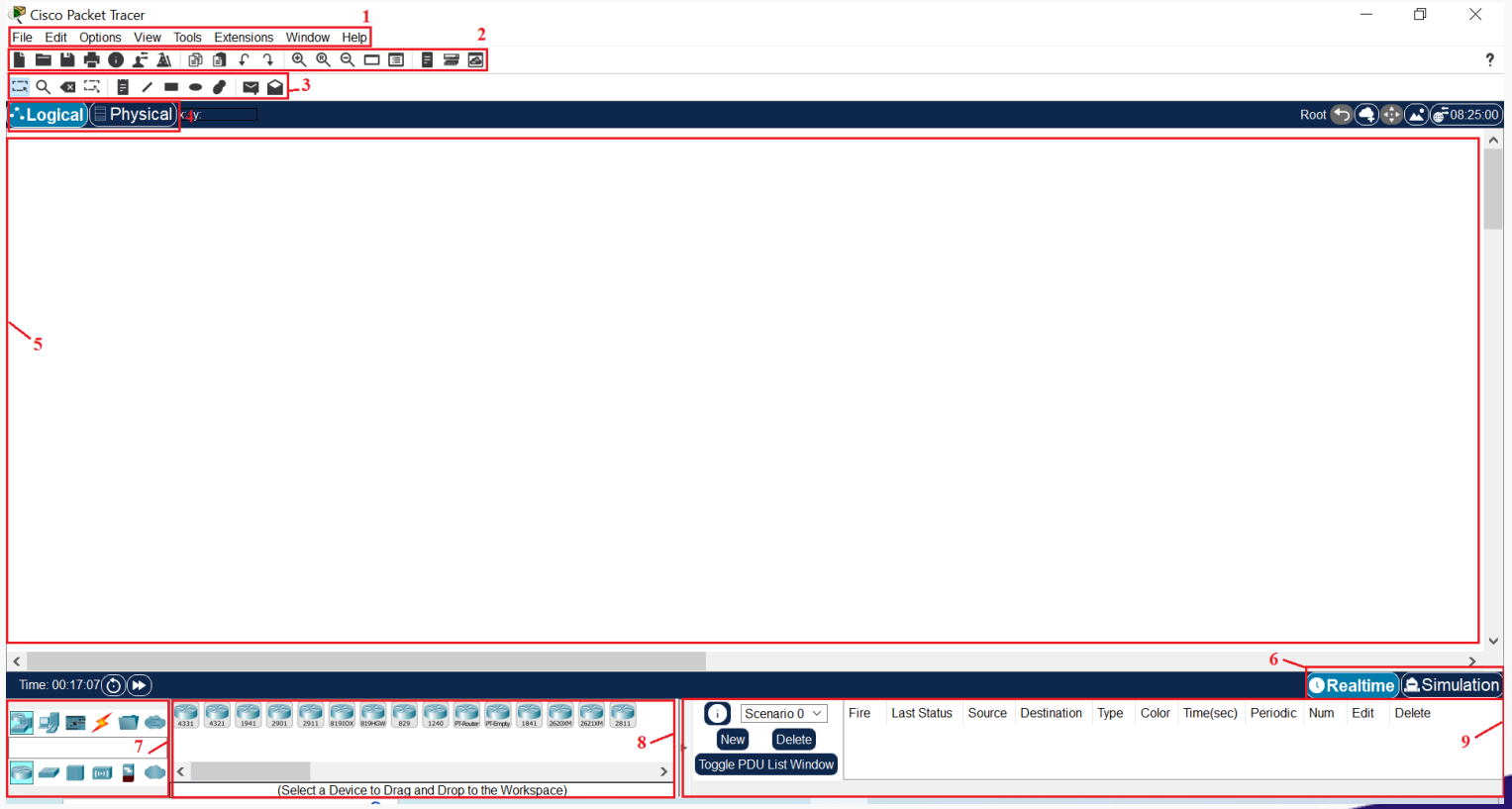
- Simulation, Visualization, Collaboration



Cisco Packet Tracer Overview

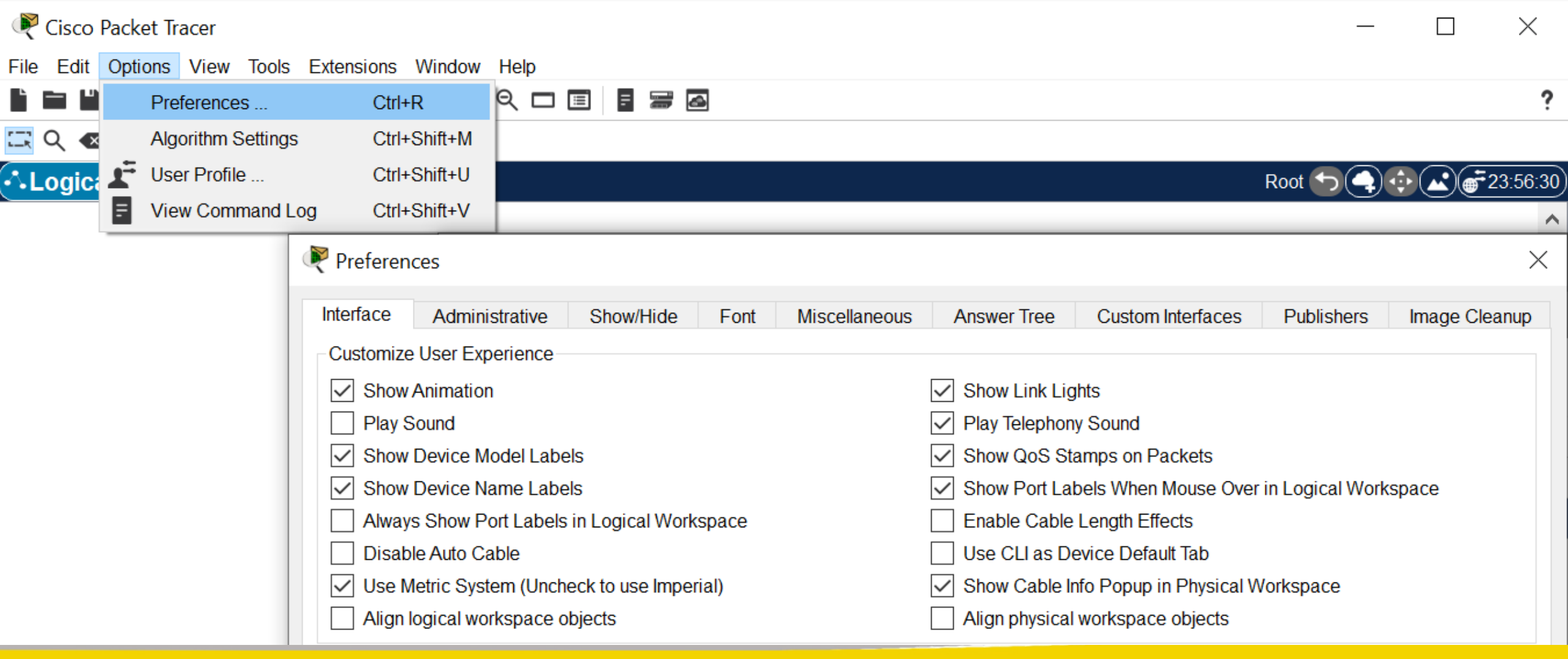
Packet Tracer - Interface

1. Menu Bar: basic menus and commands
2. Main Tool Bar: shortcut icons to the some menu commands
3. Additional commands
4. Logical/Physical Navigation Bar:
   - toggle between Physical or Logical Workspace
5. Workspace: the space to work or watch simulation
6. Realtime/Simulation Bar:
   - toggle between Realtime Mode and Simulation Mode
7. Device-Type Selection Box:
   - It contains the type of devices and connections available in Packet Tracer
   - The Device-Specific Selection Box will change depending on which type of device you choose.
8. Device-Specific Selection Box:
   - It is where you choose specifically which devices you want to put in your network and which connections to make.
9. User Created Packet Window:
   - It manages the packets you put in the network during simulation scenarios



Cisco Packet Tracer Overview

Packet Tracer – Customize User Experience

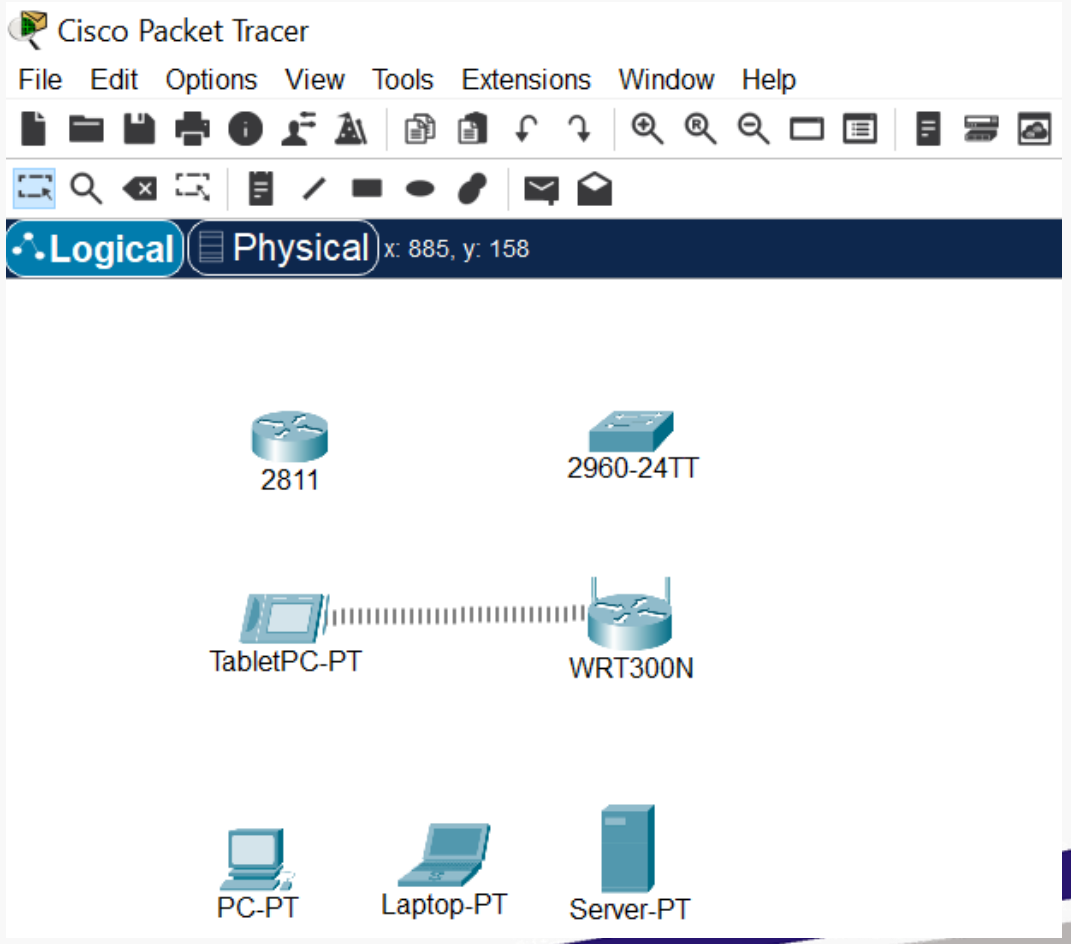


Equipment in the Lab

The Labs - The devices

Type of devices in our lab:

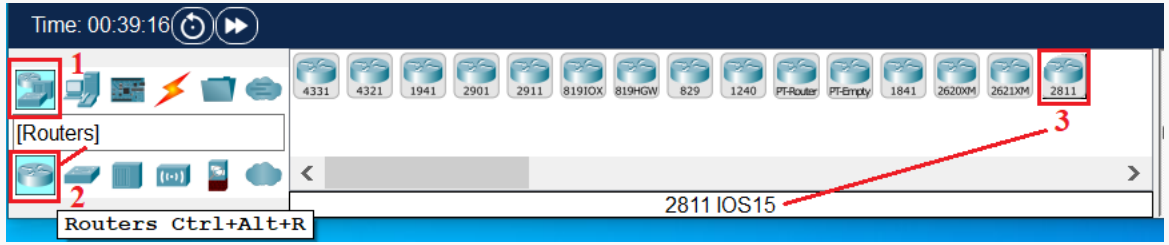
- Server (Server-PT)
- PC (PC-PT) and/or Laptop (Laptop-PT)
- Tablet (TabletPC-PT), other end devices
- Router 2811 (2811) with NM-2FE2W module
- Switch 2960 (2960-24TT)
- Wireless WRT300N (WRT300N)
- Connections

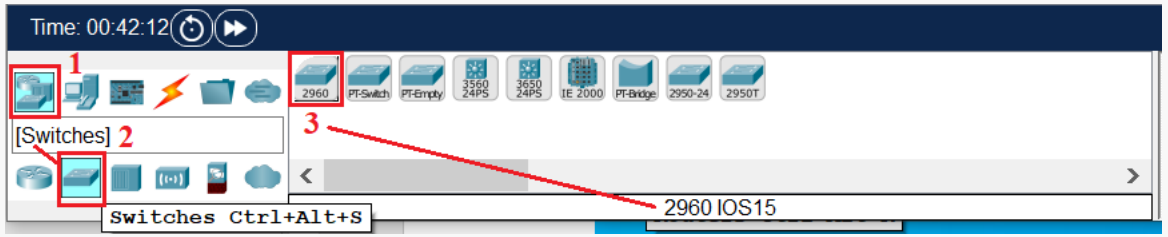


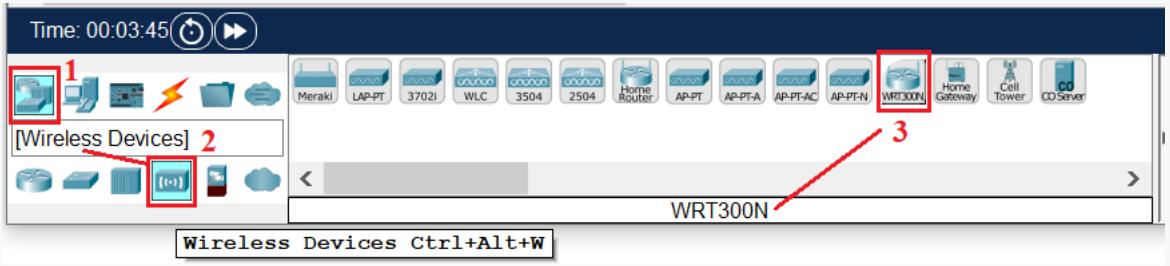
Equipment in the Lab

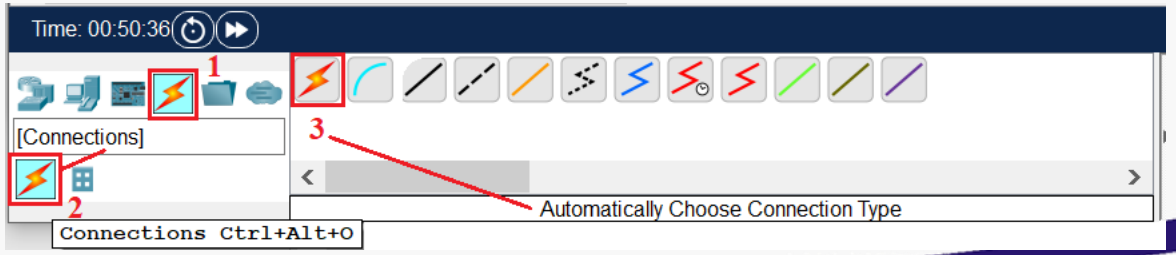
The Device – Place the device into the workspace

- Select a device and Drag / Drop it to the Workspace





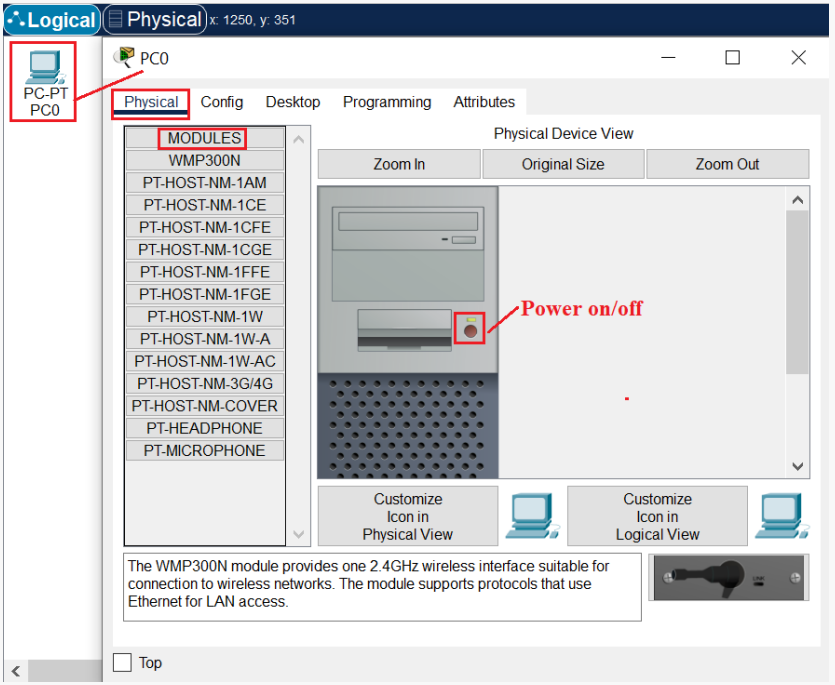


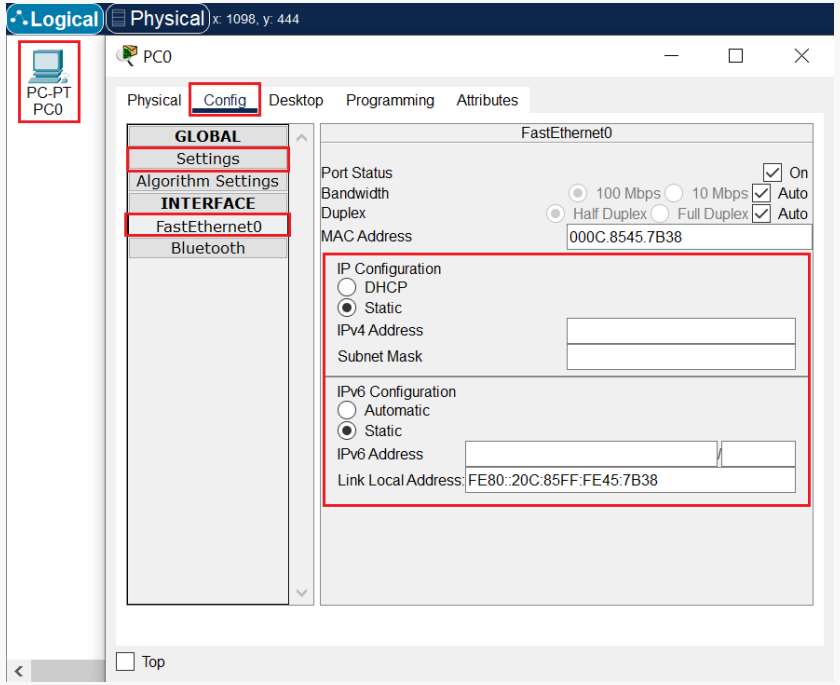


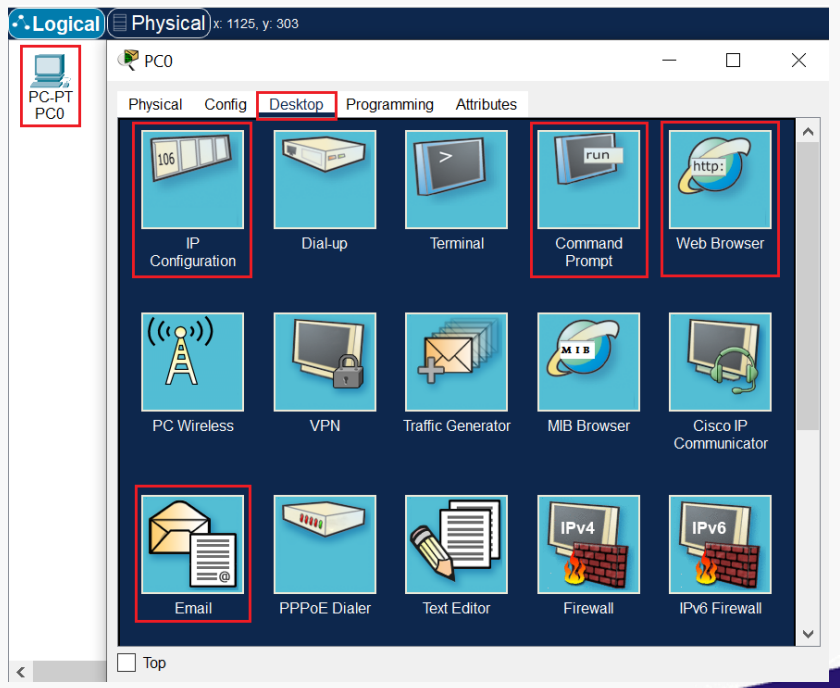
Equipment in the Lab

The Device – Configuration Wizard

Main tabs on Configuration Wizard of the PC





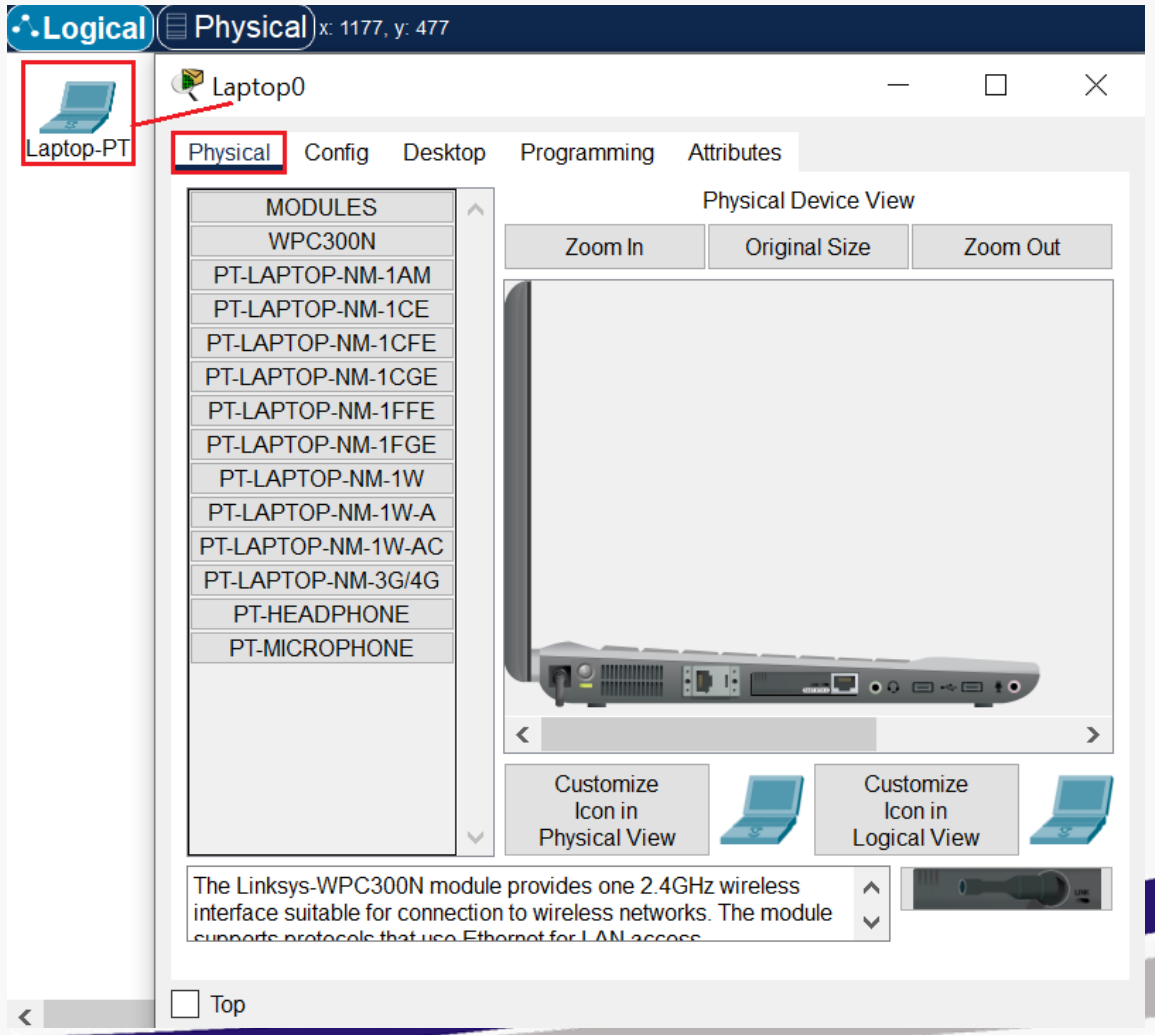


Equipment in the Lab

The Device – Configuration Wizard

Main tabs on Configuration Wizard of the Laptop

- Config, Desktop tabs as PC

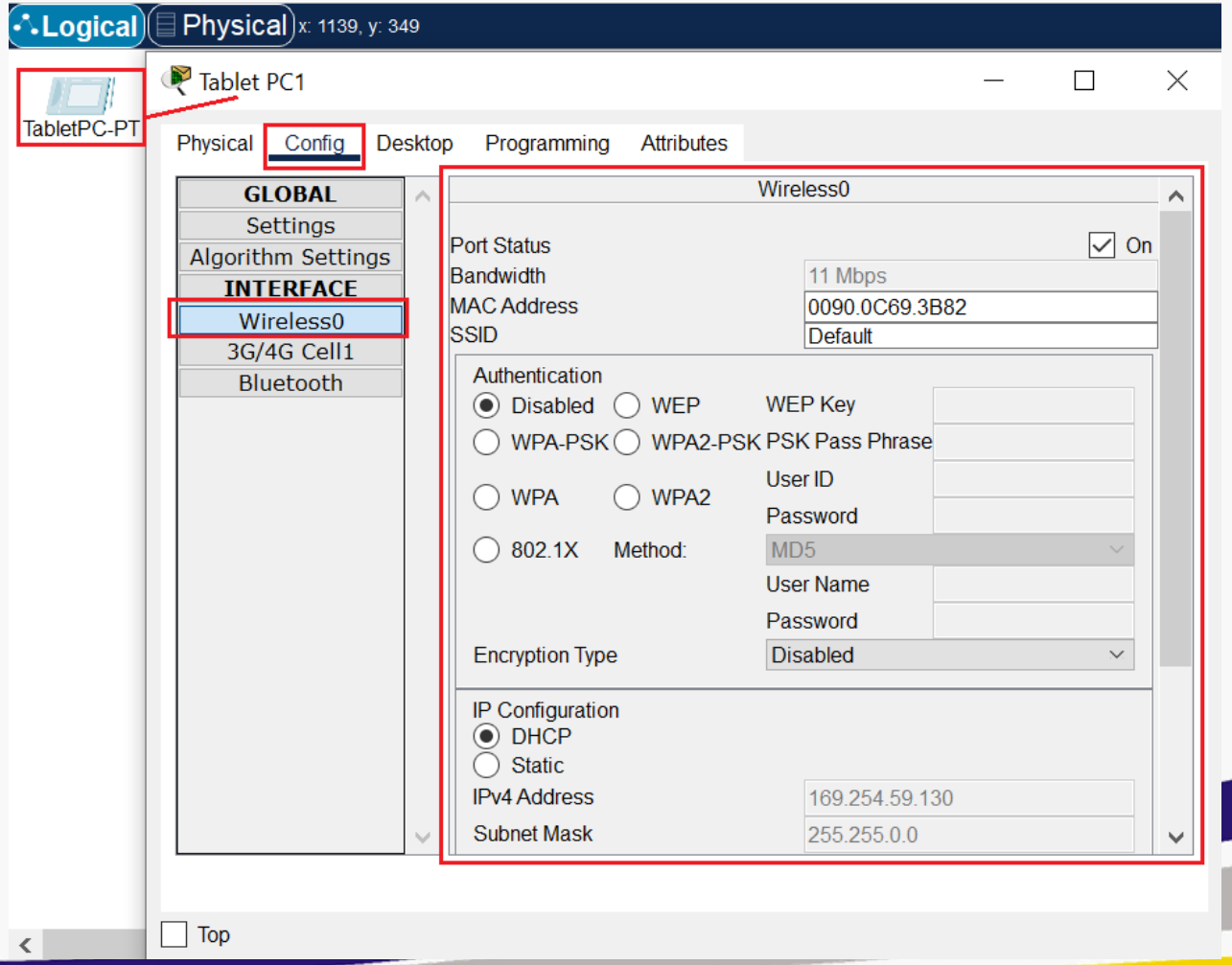


Equipment in the Lab

The Device – Configuration Wizard

Main tabs on Configuration Wizard of the TabletPC

- Physical, Desktop tabs as PC
- Other end divices (the same)

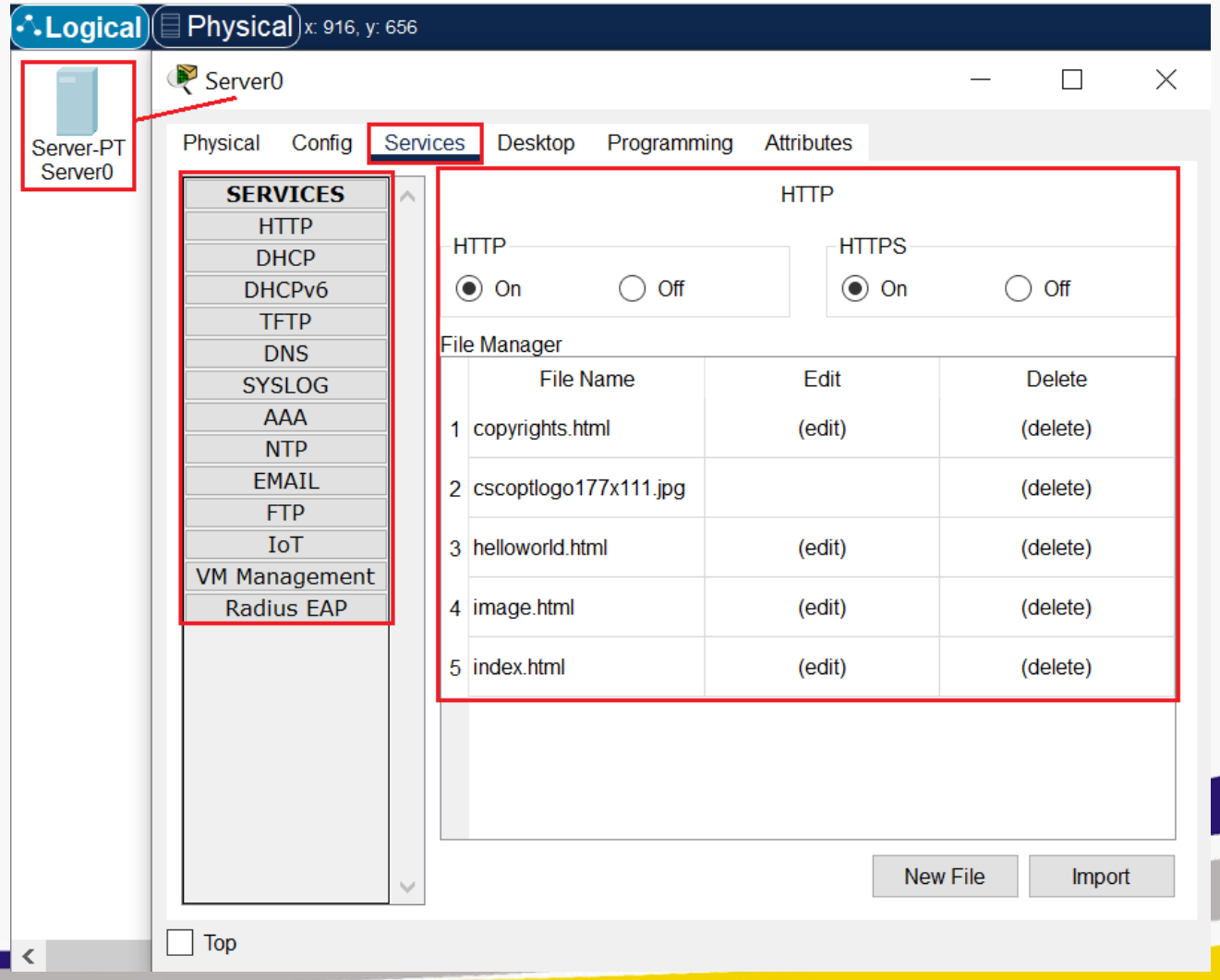


Equipment in the Lab

The Device – Configuration Wizard

Main tabs on Configuration Wizard of the Server

- Physical, Config, Desktop tabs as PC

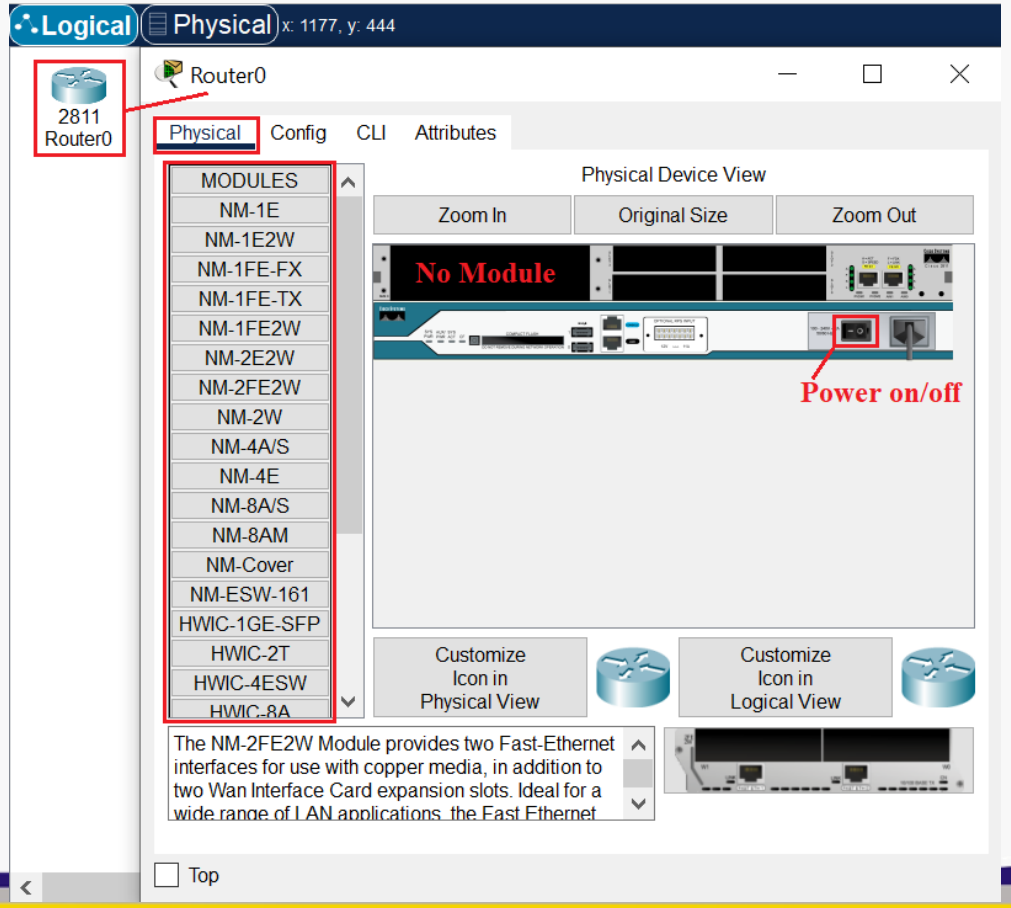


Equipment in the Lab

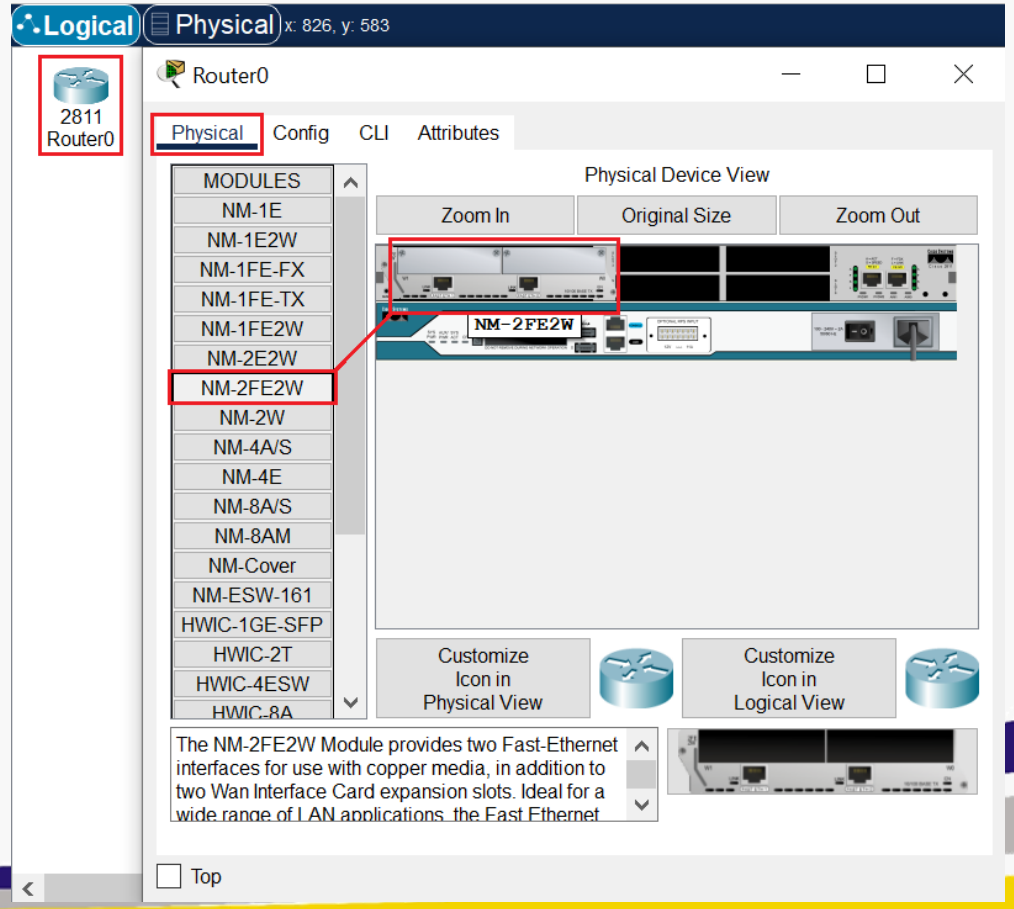
The Device – Configuration Wizard

Main tabs on Configuration Wizard of the Router

- Before adding the module



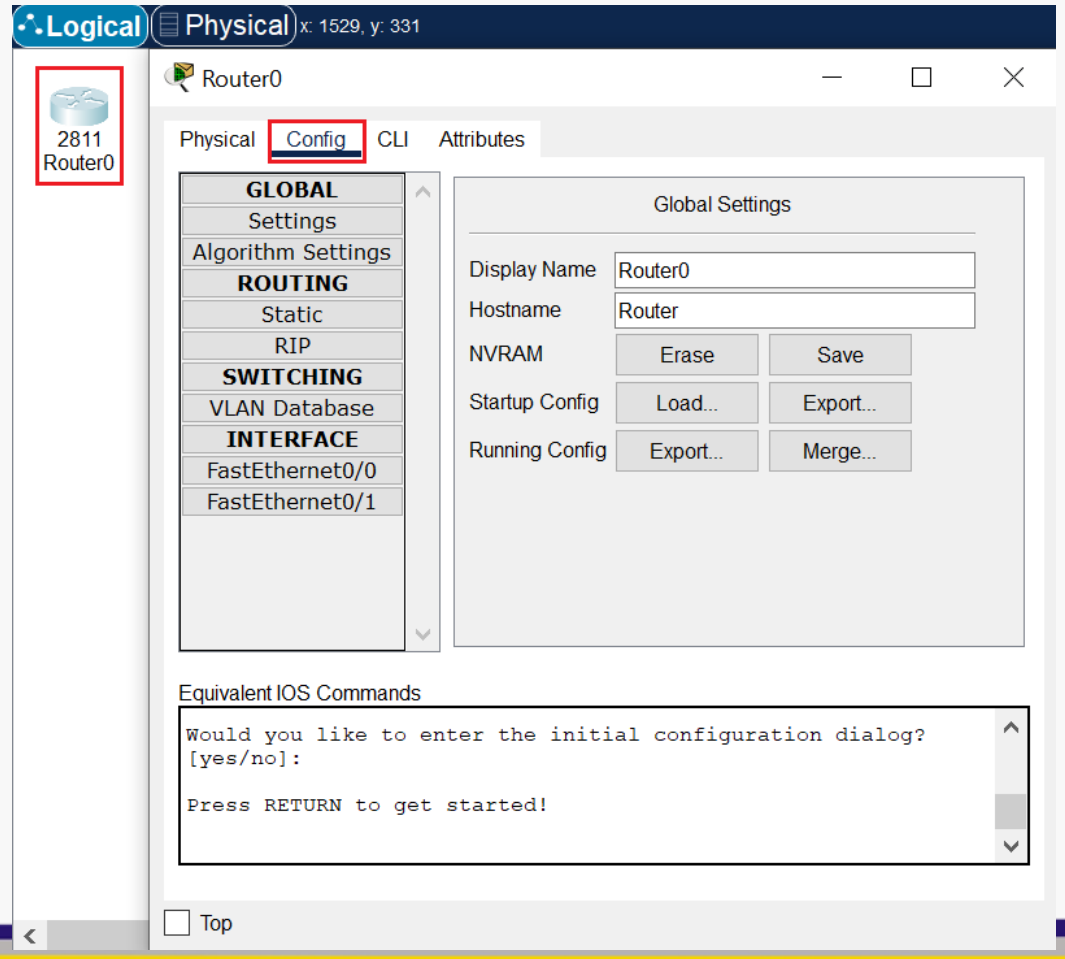
- Drag and Drop the NM-2FE2W module to the Router

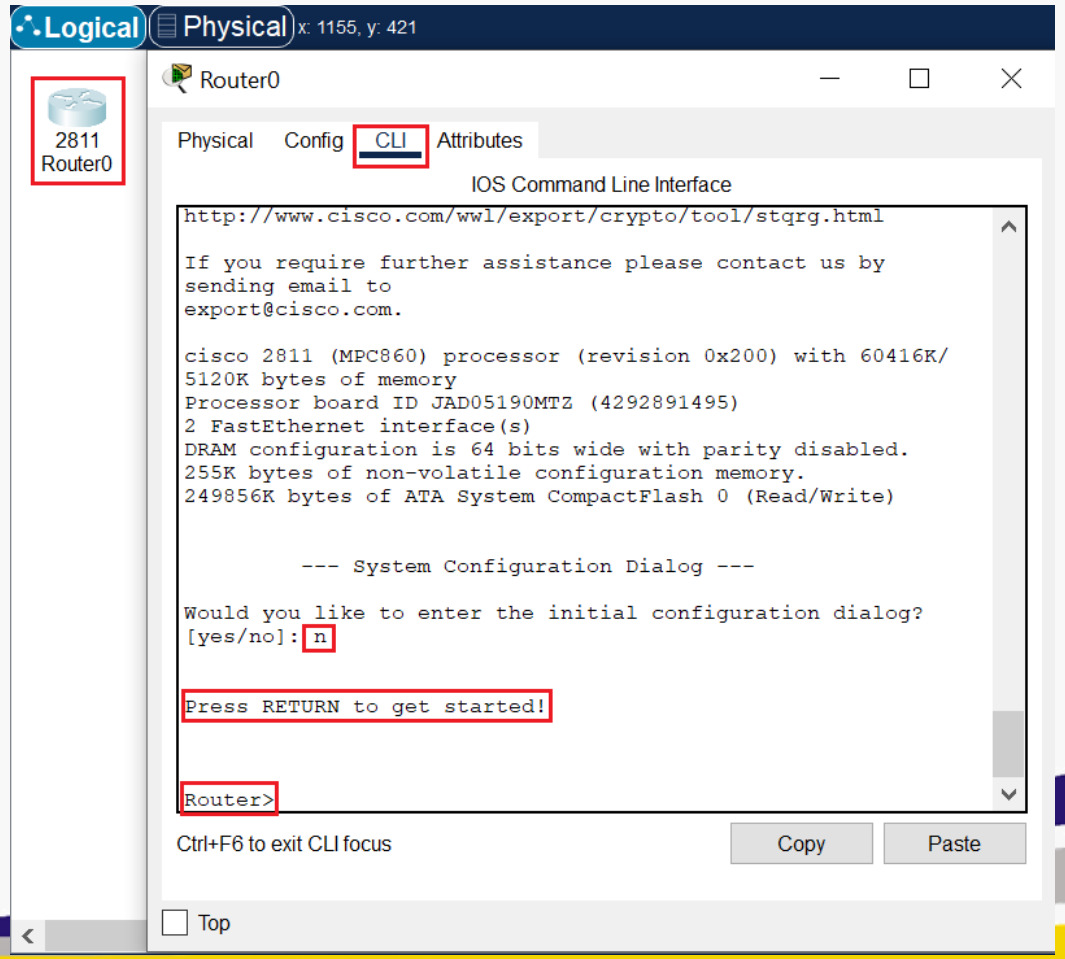


Equipment in the Lab

The Device – Configuration Wizard

Main tabs on Configuration Wizard of the Router



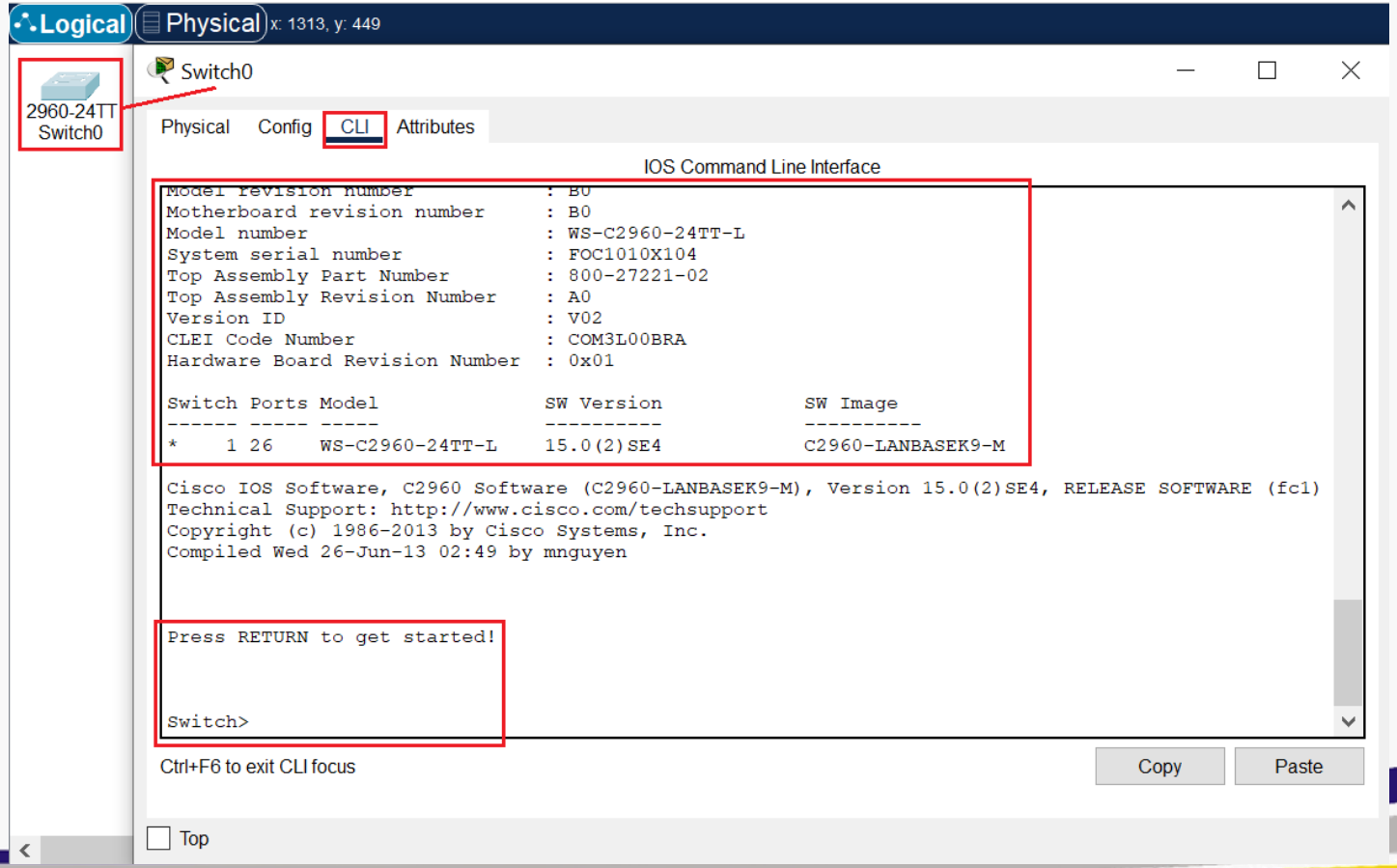


Equipment in the Lab

The Device – Configuration Wizard

Main tabs on Configuration Wizard of the Switch

- Physical, Config tabs as Router

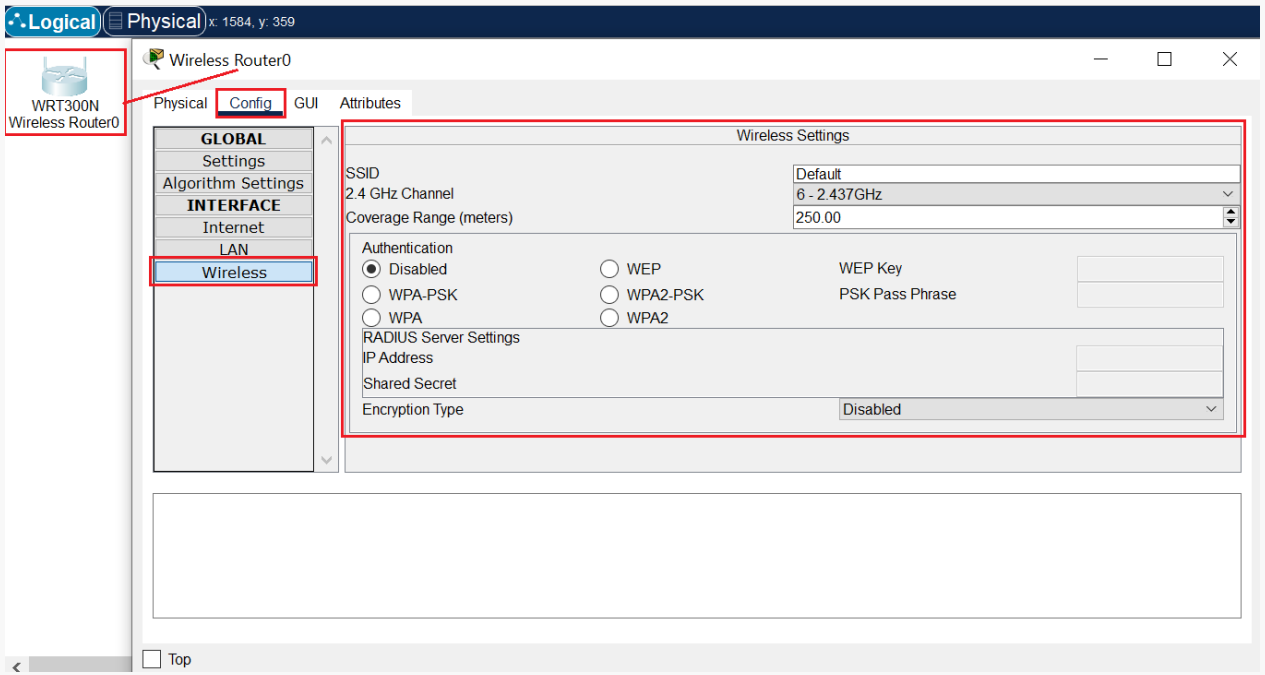


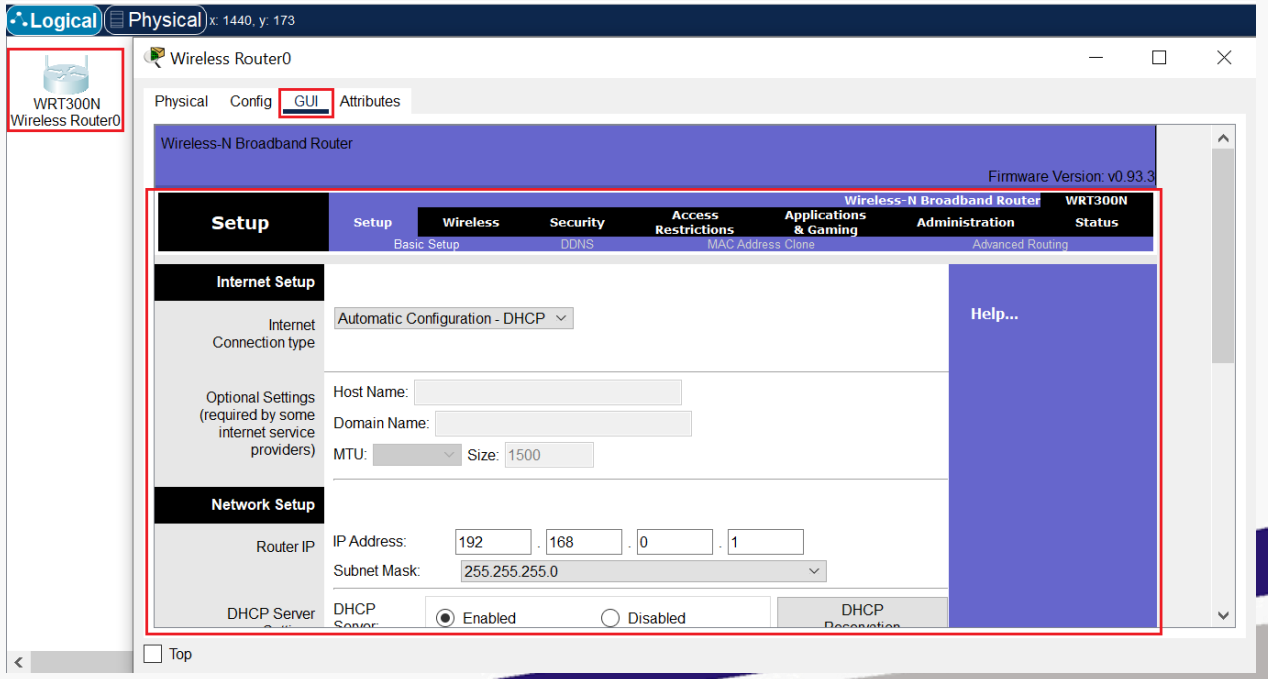
Equipment in the Lab

The Device – Configuration Wizard

Main tabs on Configuration Wizard of the Wireless

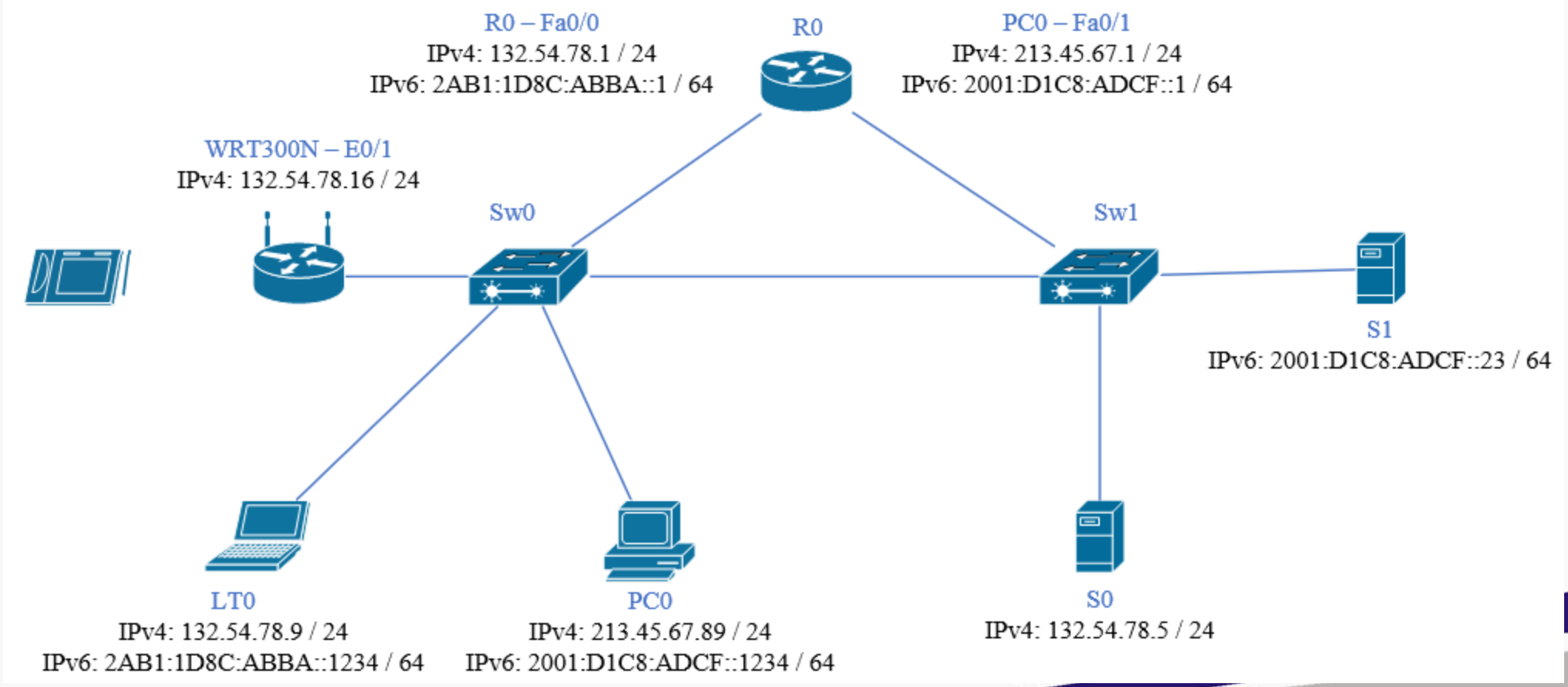
- Physical tab as Router or Switch





Exercise 1 – The Requires

Network topology



Practice

Exercise 1 – The Requires

Other information

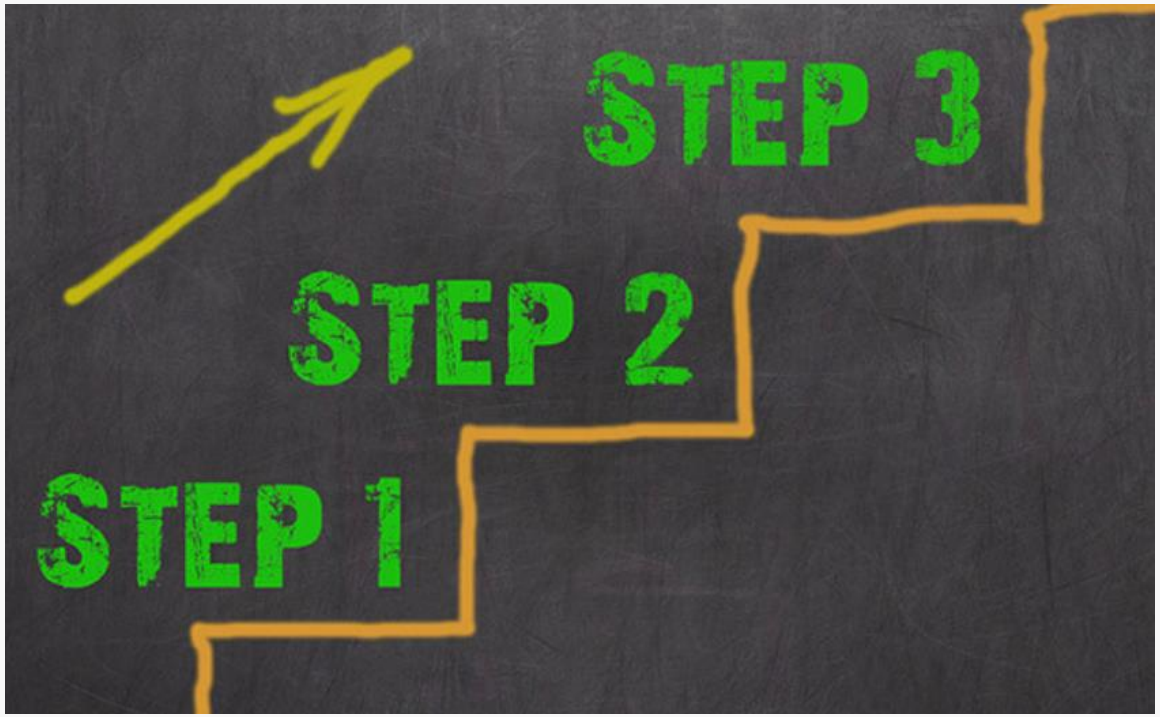
N0	Name of Device	Type of Device	Interface	To Interface (of device)	IP Address	Subnet Mask	Default Gateway
1	LT0	Laptop-PT	Fa0	Fa0/1 (Sw0)	IPv4: 132.54.78.9	255.255.255.0	IPv4: 132.54.78.1
					IPv6: 2AB1:1D8C:ABBA::1234	/64	IPv6: 2AB1:1D8C:ABBA::1
2	PC0	PC-PT	Fa0	Fa0/2 (Sw0)	IPv4: 213.45.67.89	255.255.255.0	IPv4: 213.45.67.1
					IPv6: 2001:D1C8:ADCF::1234	/64	IPv6: 2001:D1C8:ADCF::1
3	S0	Server-PT	Fa0	Fa0/1 (Sw1)	IPv4: 132.54.78.5	255.255.255.0	IPv4: 132.54.78.1
4	S1	Server-PT	Fa0	Fa0/2 (Sw1)	IPv6: 2001:D1C8:ADCF::23	/64	IPv6: 2001:D1C8:ADCF::1
5	TPC0	TabletPC-PT	Wle0	Wle (WR0)			
6	WR0	WRT300N	E0/1 (or E1)	Fa0/4 (Sw0)	IPv4: 132.54.78.16	255.255.255.0	IPv4: 132.54.78.1
					IPv6: 2AB1:1D8C:ABBA::16	/64	IPv6: 2AB1:1D8C:ABBA::1
7	R0	2811	Fa0/0	Fa0/3 (Sw0)	IPv4: 132.54.78.1	255.255.255.0	
					IPv6: 2AB1:1D8C:ABBA::1	/64	
			Fa0/1	Fa0/3 (Sw1)	IPv4: 213.45.67.1	255.255.255.0	
					IPv6: 2001:D1C8:ADCF::1	/64	
8	Sw0	2960-24TT	Gi0/1	Gi0/1 (SW1)			
9	Sw1	2960-24TT	Gi0/1	Gi0/1 (SW0)			

Exercise 1 – The steps to do exercises

Step 1: Create the Network Topology
- Take the devices into workspace
- Complete the cabling

Step 2: Configure the IP address
- on the hosts.
- on routers

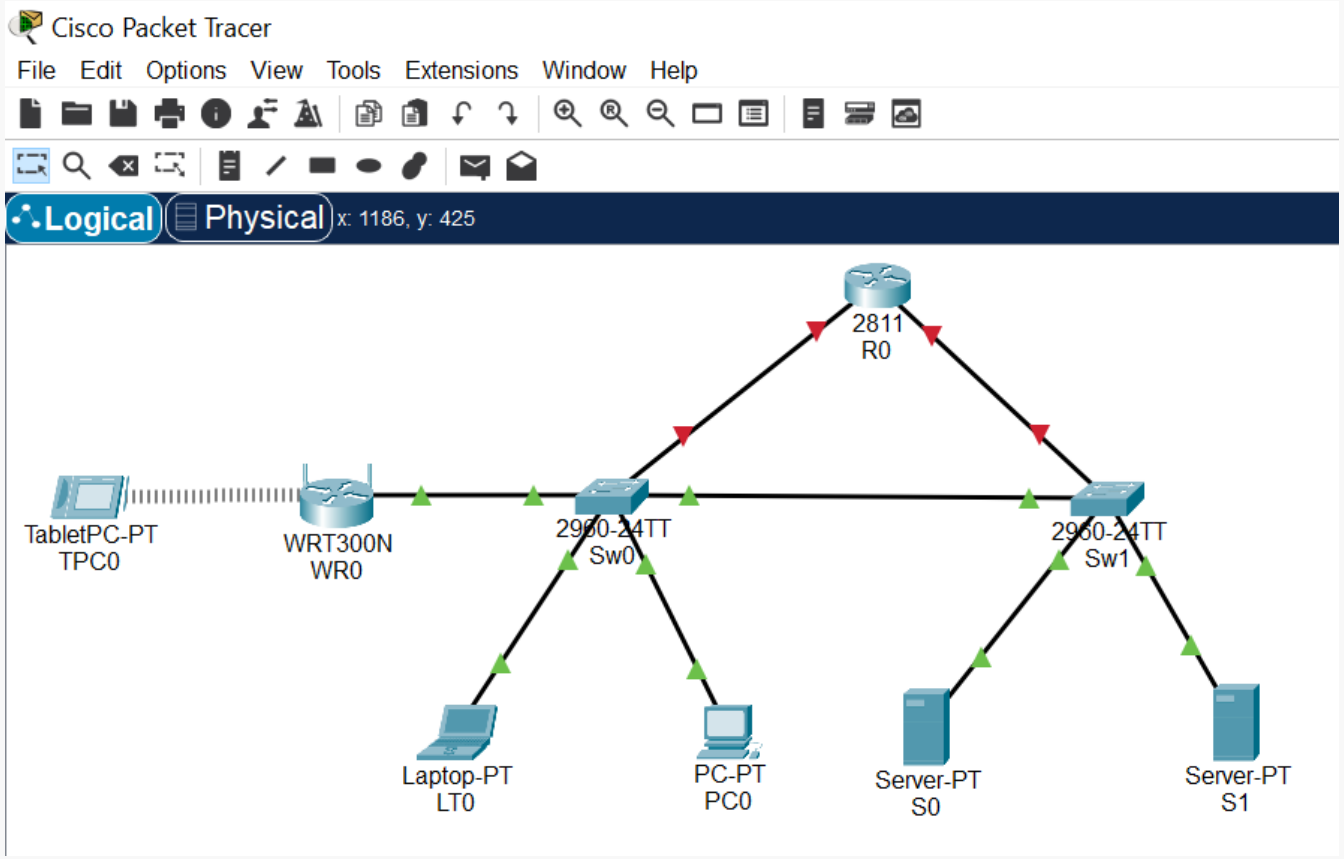
Step 3: Test connectivity.

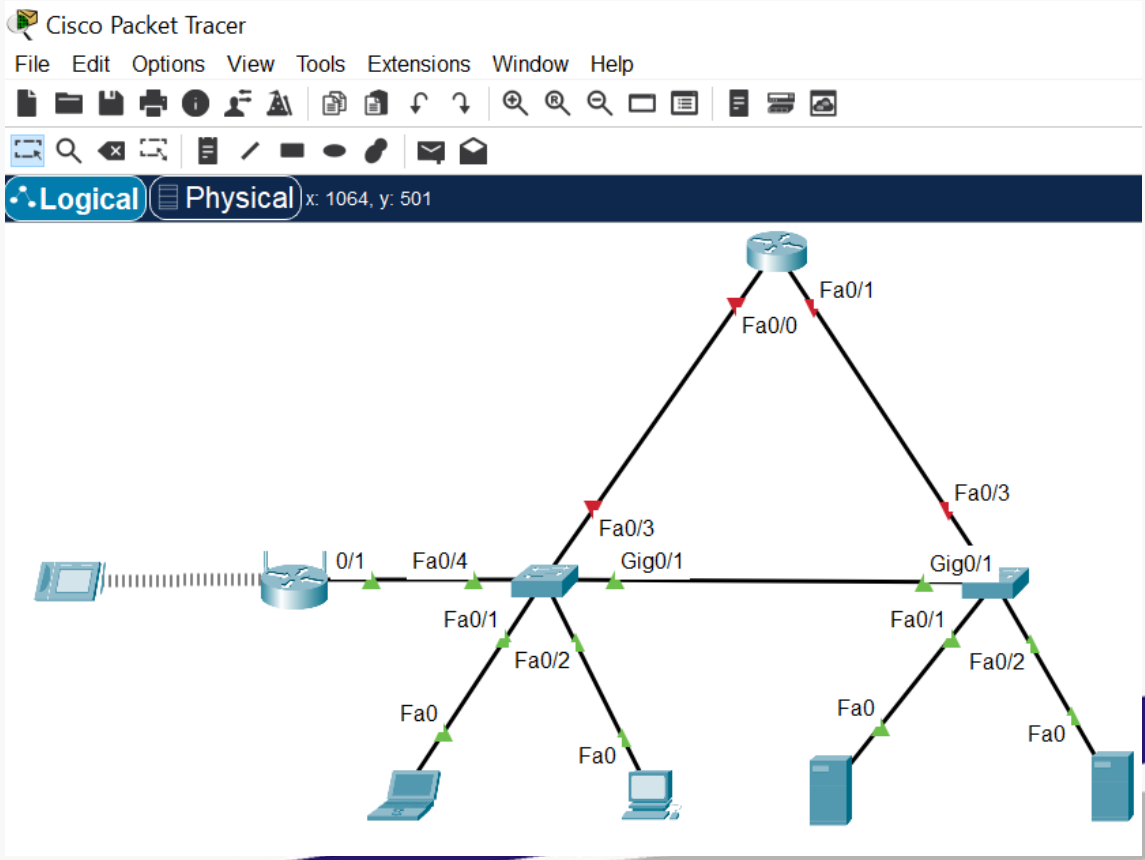


Practice

Exercise 1 – Step 1: Create the Network Topology

Result of step 1



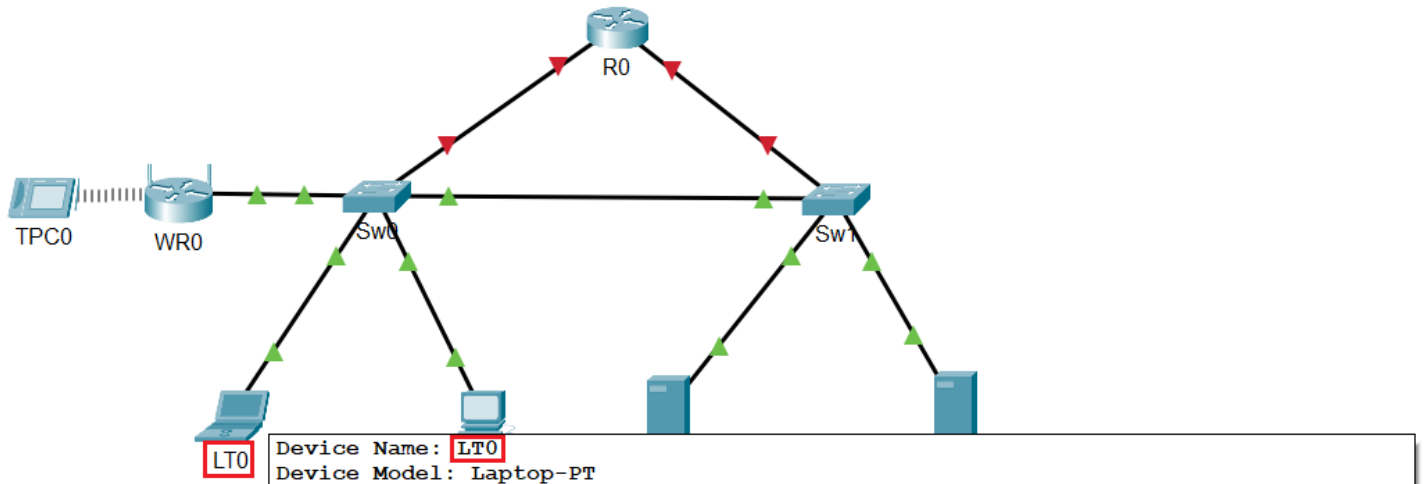


Practice

Exercise 1 – Step 2: Configure the IP address

Result of step 2

- The configuration for LT0 is below
- Other devices (PC0, S0, S1, WR0) do the same

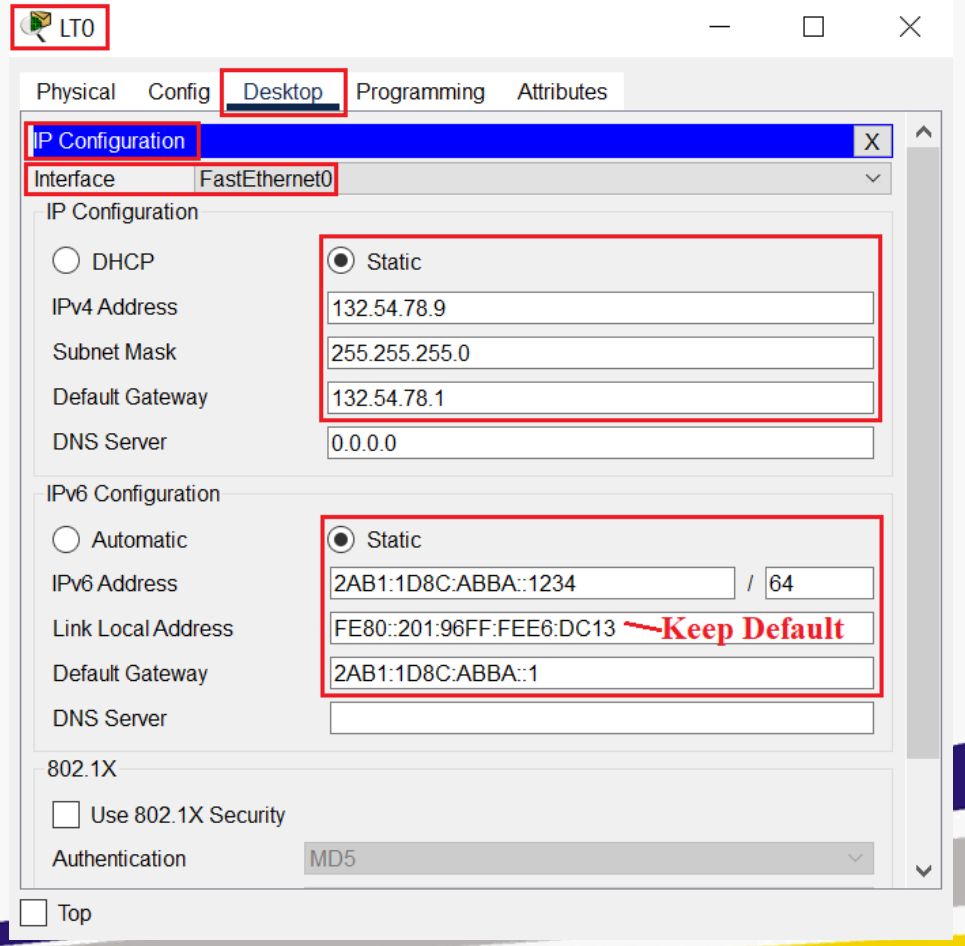



```
Device Name: LT0
Device Model: Laptop-PT

Port            Link   IP Address          IPv6 Address                MAC Address
FastEthernet0   Up     132.54.78.9/24      2AB1:1D8C:ABBA::1234/64     0001.96E6.DC13
Bluetooth       Down   <not set>           <not set>                   0060.2F26.C2BC

Gateway: 132.54.78.1
DNS Server: <not set>
Line Number:  <not set>

Physical Location: Intercity > Home City > Corporate Office > LT0
```



Practice

Exercise 1 – Step 2: Configure the IP address

Result of step 2

- The configuration for Fa0/0 (R0) is below
- Interface Fa0/1 (R0) does the same

Configure IP address for Fa0/0 (R0)

- Enter into global configuration mode

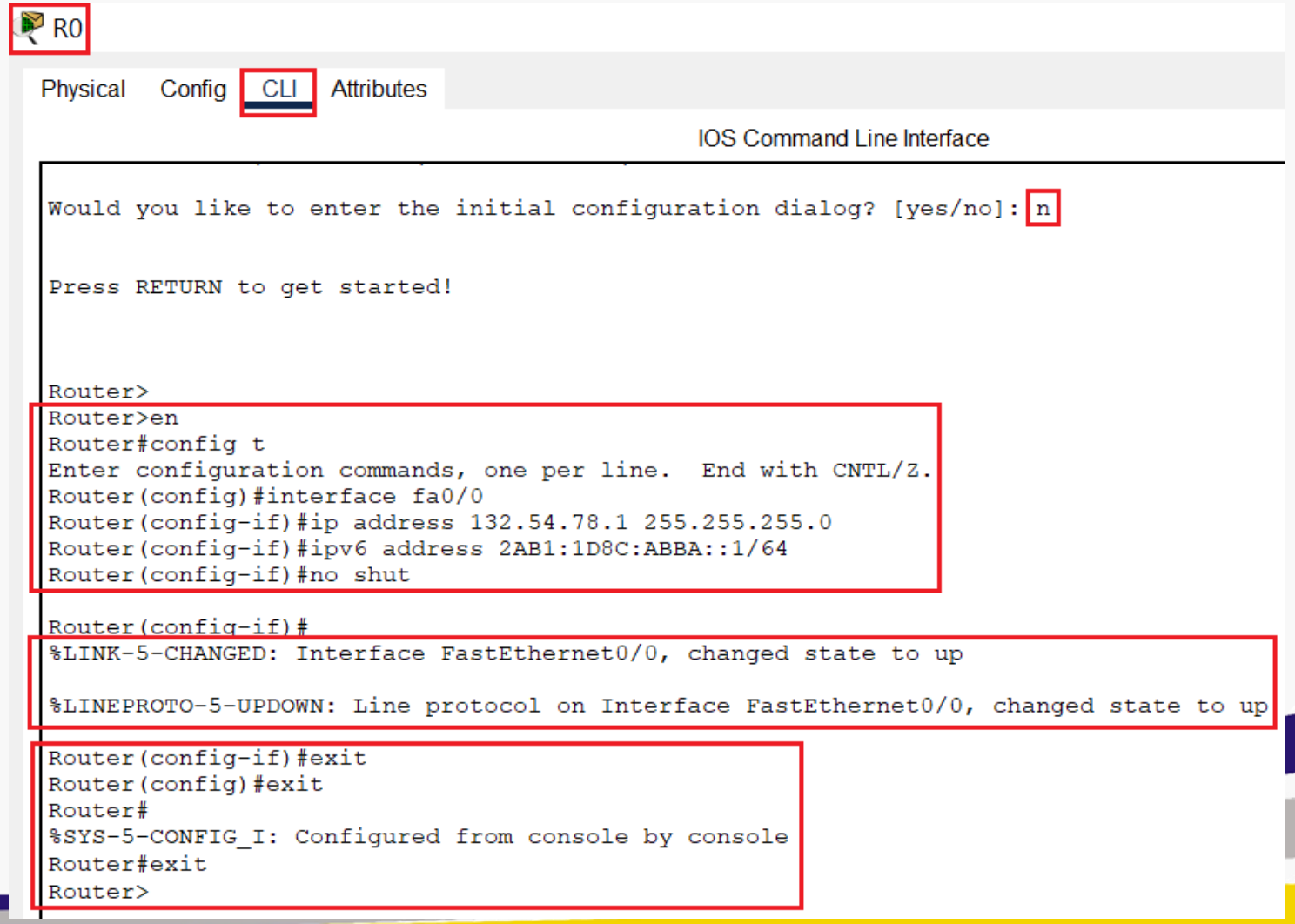
Router#*config t*
Router(config)#

- Enter into interface mode

Router(config)#
Router(config)#*interface fa0/0*

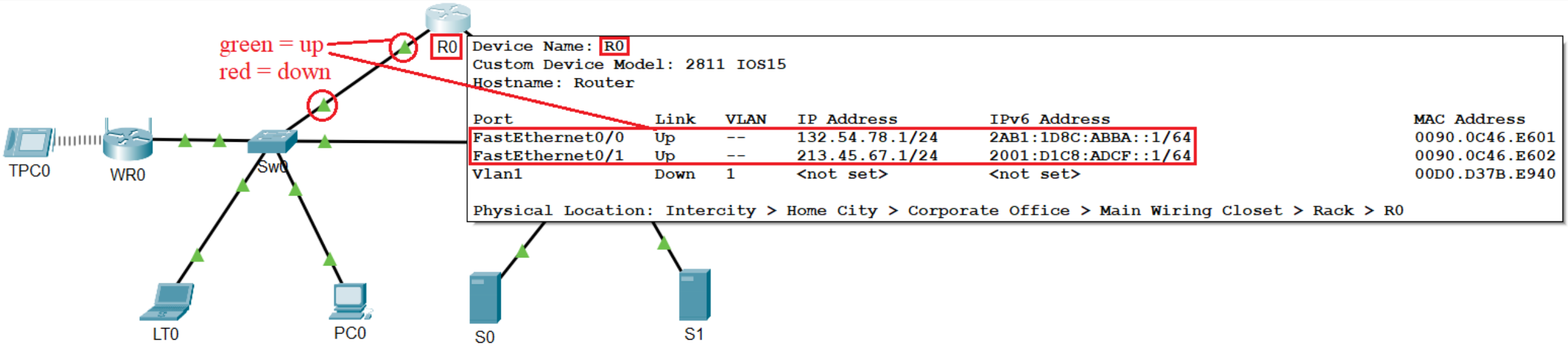
- Configure IP address on Fa0/0

Router(config-if)#*ip address 132.54.78.1 255.255.255.0*
Router(config-if)#*ipv6 address 2AB1:1D8C:ABBA::1/64*
Router(config-if)#*no shut*



Exercise 1 – Step 2: Configure the IP address

Result of step 2



Exercise 1 – Step 3: Test connectivity

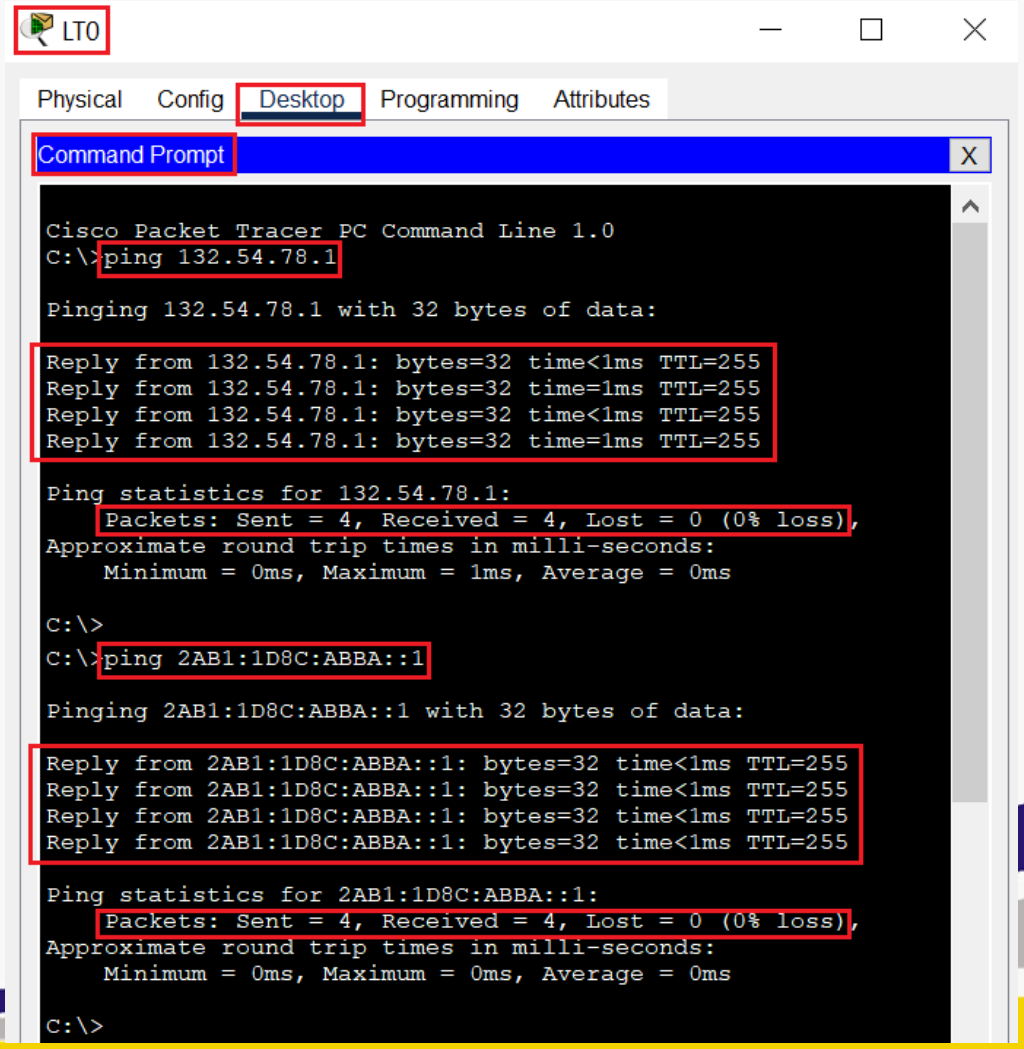
Result of step 3

On the hosts (LT0, PC0, S0,...)

- Open "Command Prompt”

- Execute "ping" command to it’s gateway
- Observe the information displayed on the screen

- Execute "ping" command to other hosts
- Observe the information displayed on the screen



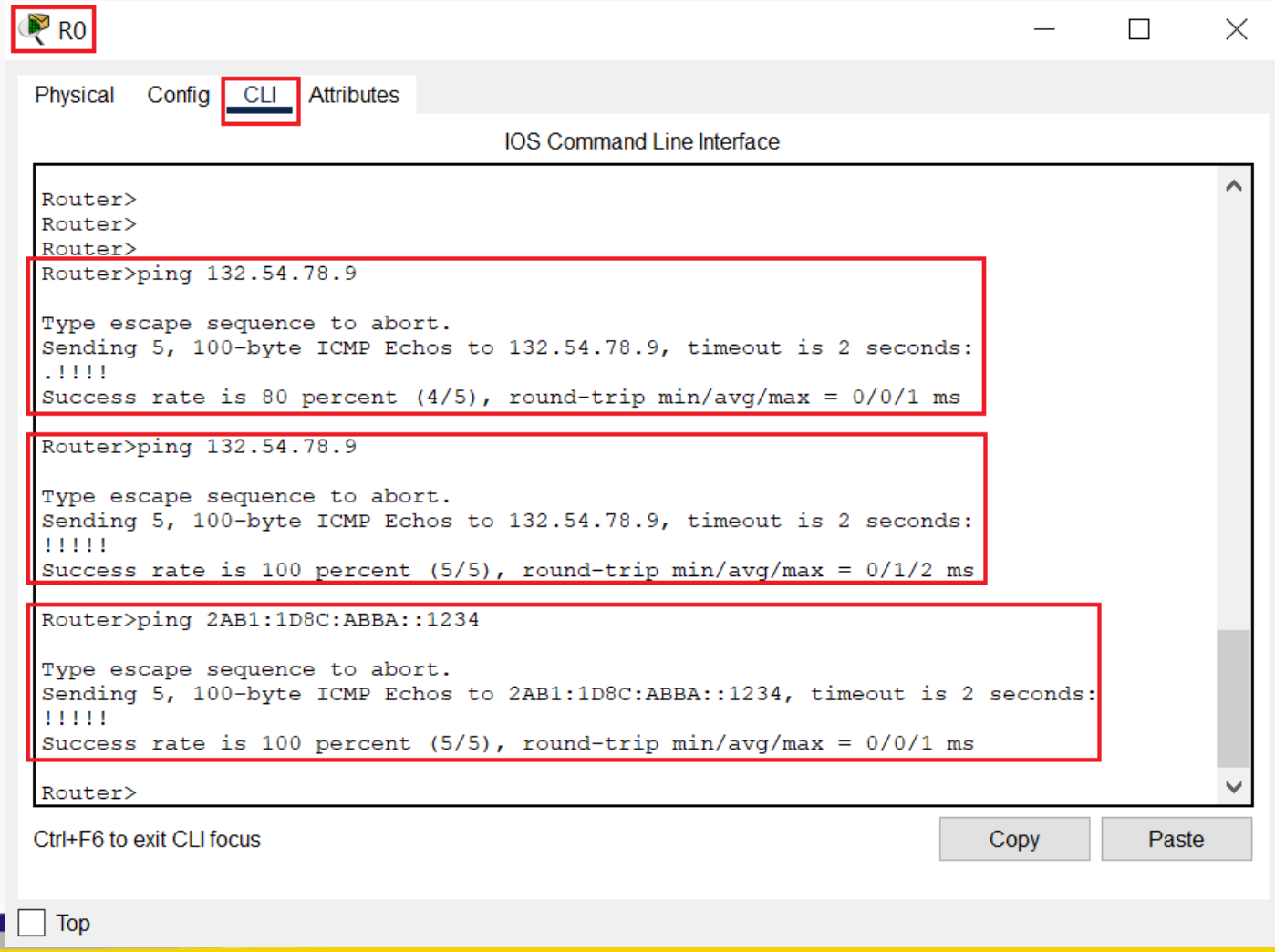
Practice

Exercise 1 – Step 3: Test connectivity

Result of step 3

On the Router (R0)

- Open "CLI or Command Line Interface"
- Execute "ping" command to hosts (LT0, PC0,...)
- Observe the information displayed on the screen



Questions and Answers