Lab # 1

Basic Network Diagram International Branches without any configuration . Just learning about the topology.

Lab Objective

To design a basic network diagram in Cisco Packet Tracer that visually represents a multinational company with three international branches:
Tokyo, London, Washington.
This is a visual exercise only no IP addressing or device configuration is required. The focus is to understand the physical layout and logical grouping of international networks.

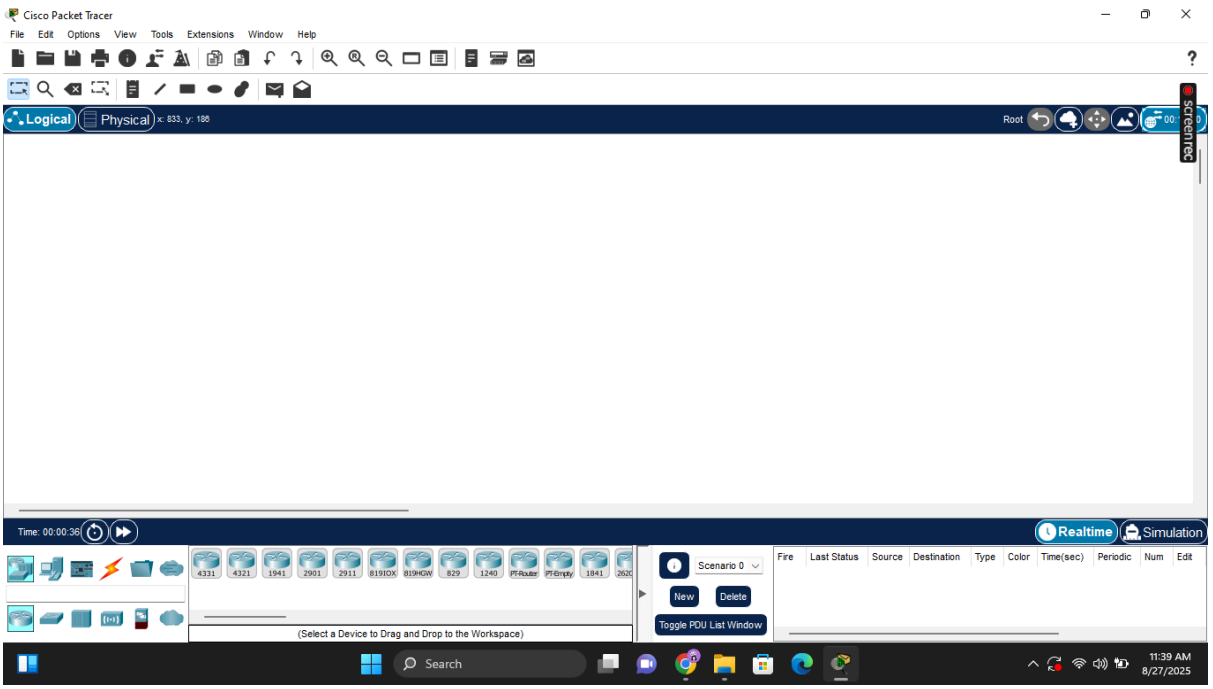
Devices Required (Per Branch)

1 Router, 1 Switch, 2 End Devices (e.g., PCs or Laptops)

Instructions:

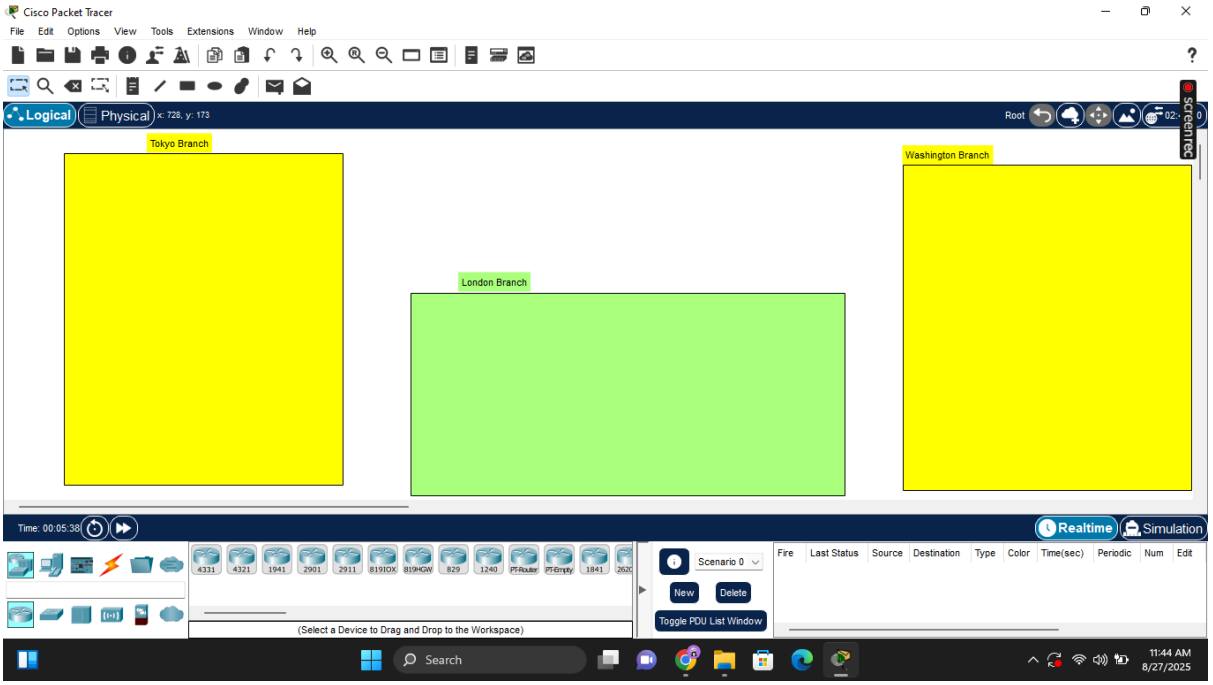
1. Launch Cisco Packet Tracer

Open Cisco Packet Tracer and prepare a new project file. You will see the following interface



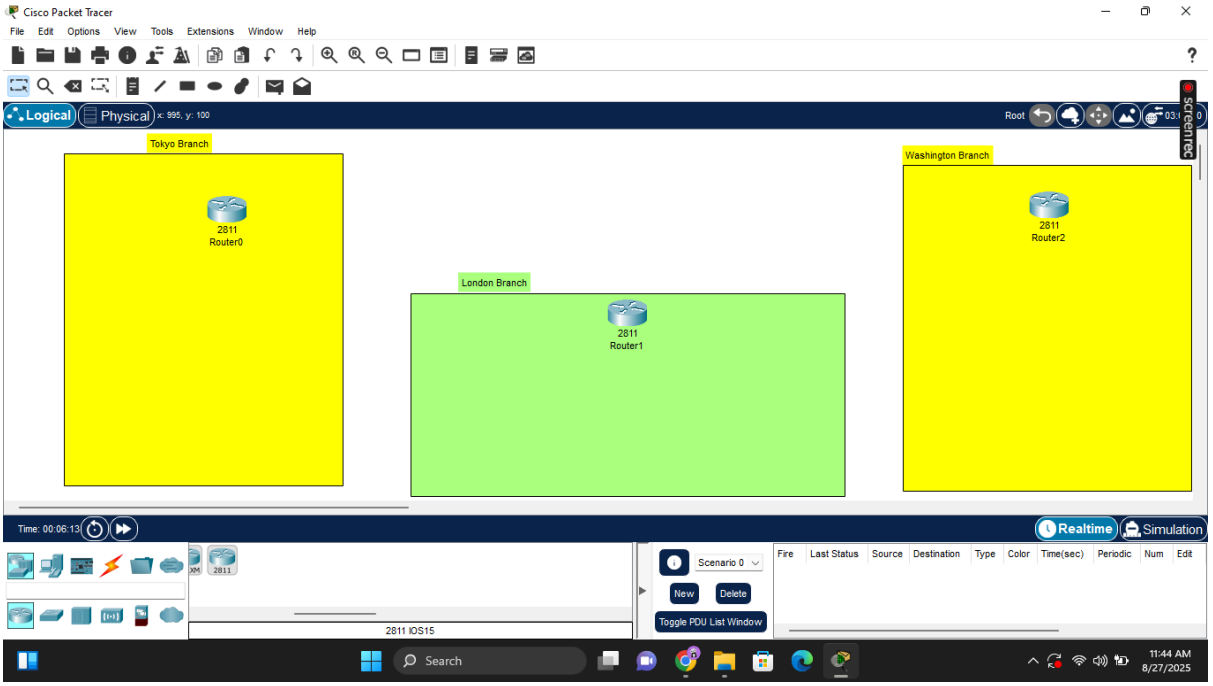
2. Create Three Branches

You can do this by clicking the 4th option which is to draw a rectangle and then select the color of your own choice from the second line. This is for the separation of the branches and to get a clean visual of each branch in a separate portion.



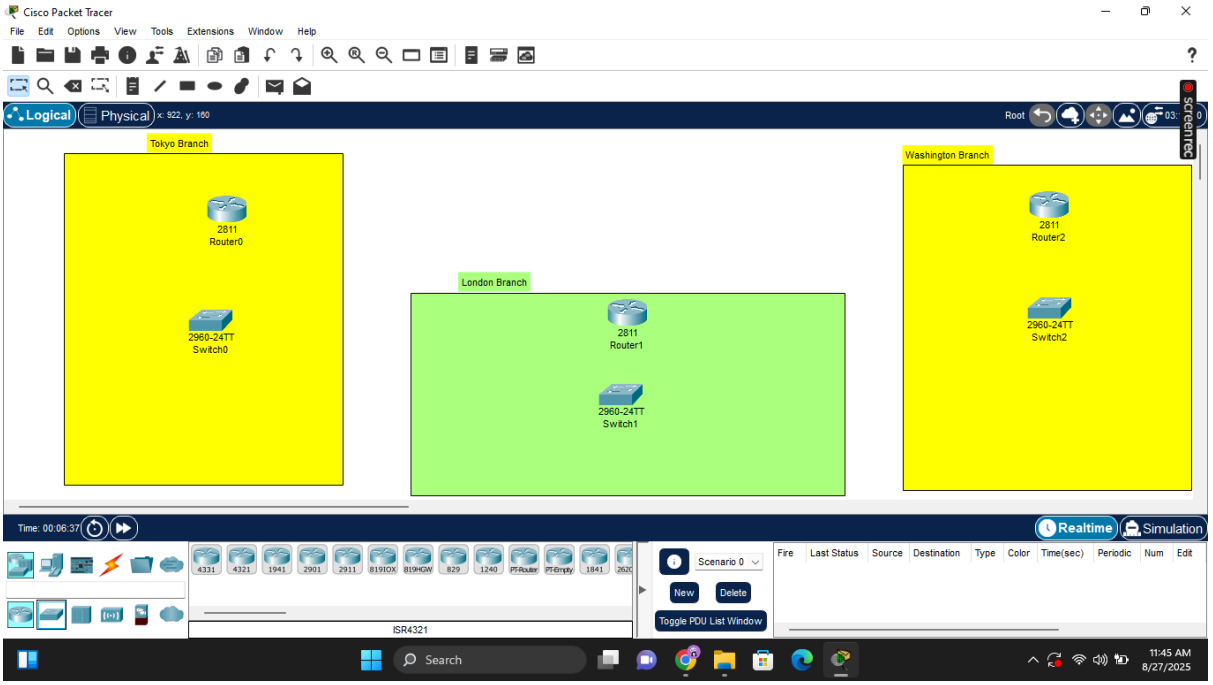
3. A Separate Router in Each branch

Each branch should include: 1 Router connected to a Switch. Select a router from the bottom left corner , the devices section. Just select the router and drag it to the branch. Do this for each single branch and there should be a router in each branch.



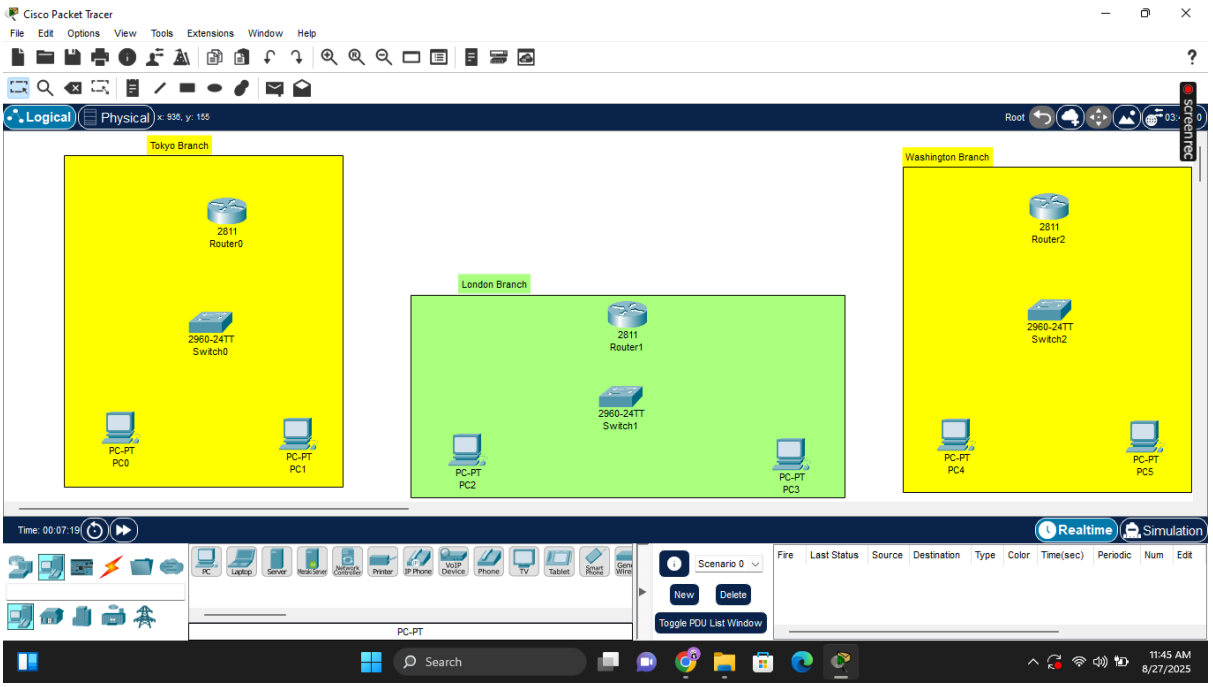
4. A Switch in Each Branch

Each branch must contain a switch to connect with the router and with the devices. So select a switch for each branch from the end devices and drag it to each branch. Make sure there must be a switch in each branch.



5. End Devices In Each Branch

There must be two end devices in each branch. These end devices can be PC's or Laptops . Here I am selecting two PC's .

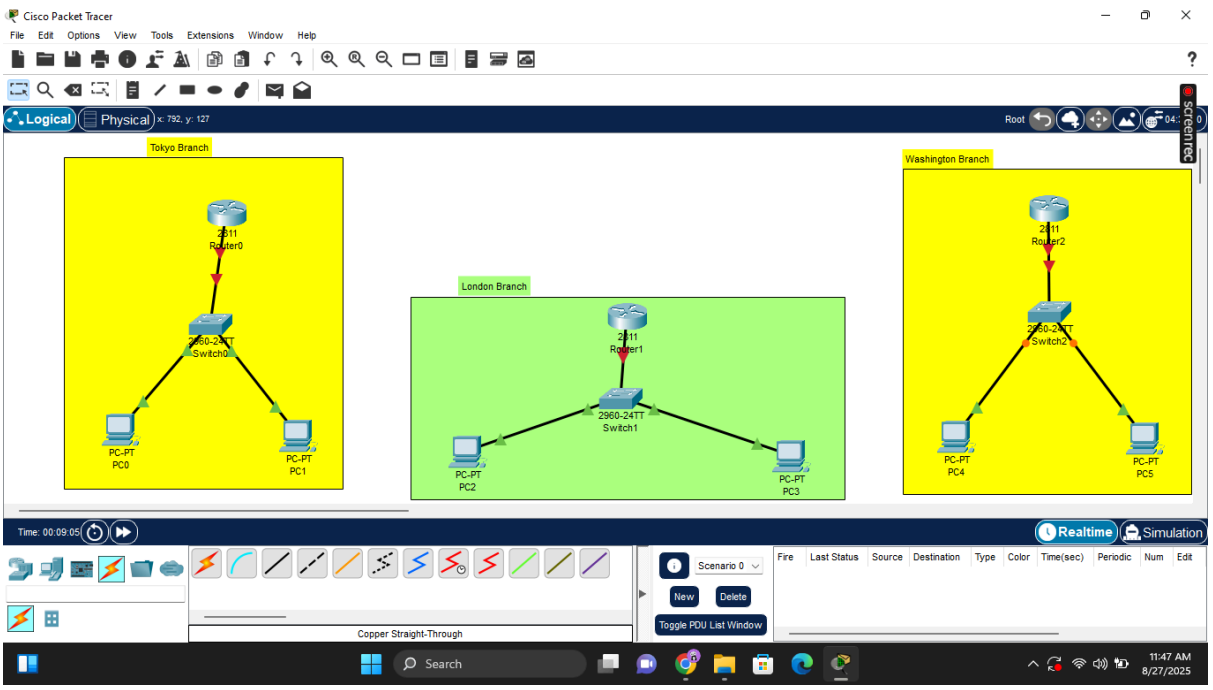


6. Connectivity

i. Connect the end devices with the switch. Make sure to connect each end device with the switch. You can do this by selecting the Connections Icon from the bottom left corner. When you click on it, it shows different types of cables (like straight-through, crossover, fiber, serial, console) that you can use to connect networking devices.

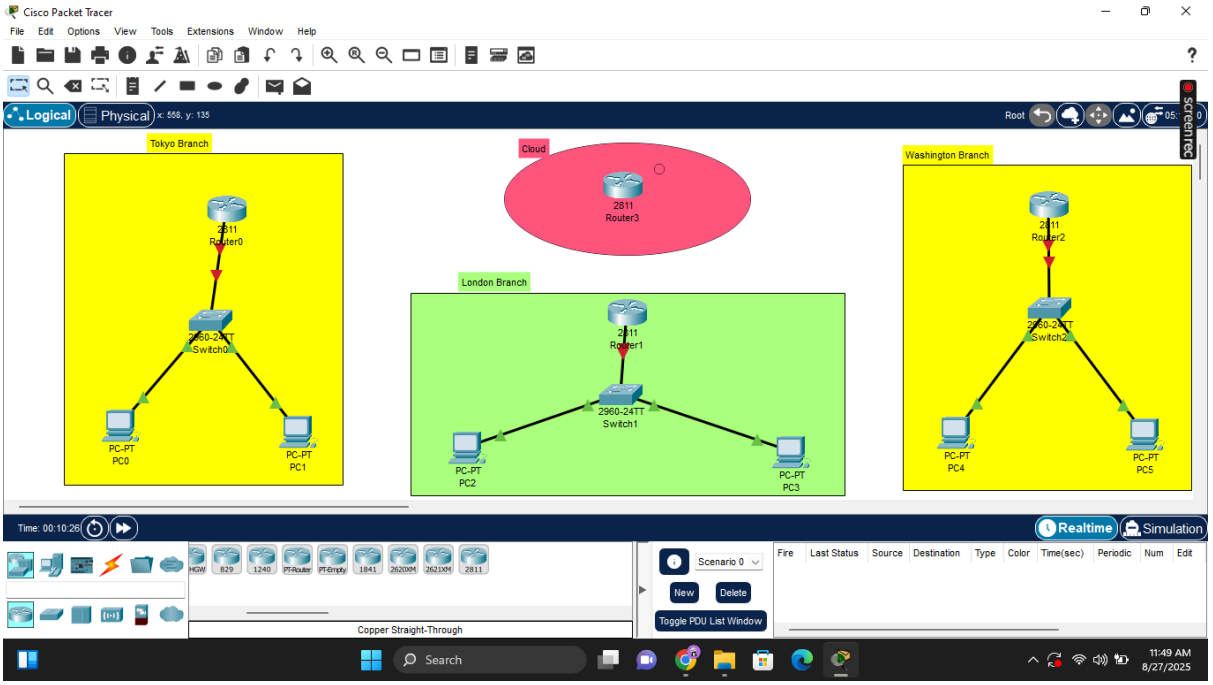
Use the simple straight through cable to connect the End device (A PC) with a switch. (Search more about the type of cabling and study what are the different types of cables and where each type is used).

ii. Connect the switches with the routers in each branch. Use the same straight thorough cable for connecting switches with the routers.



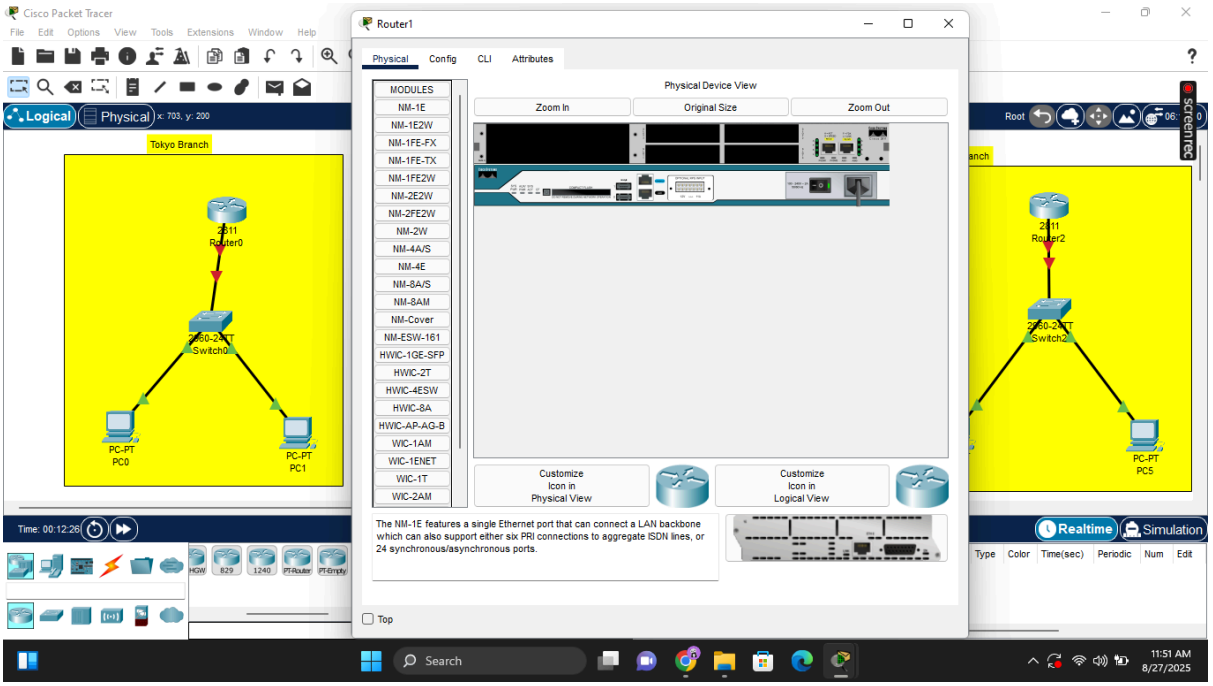
7. Cloud

Create a central cloud environment to connect each branch with it. For the cloud place a router which represents the cloud and it plays the central role to connect each branch.



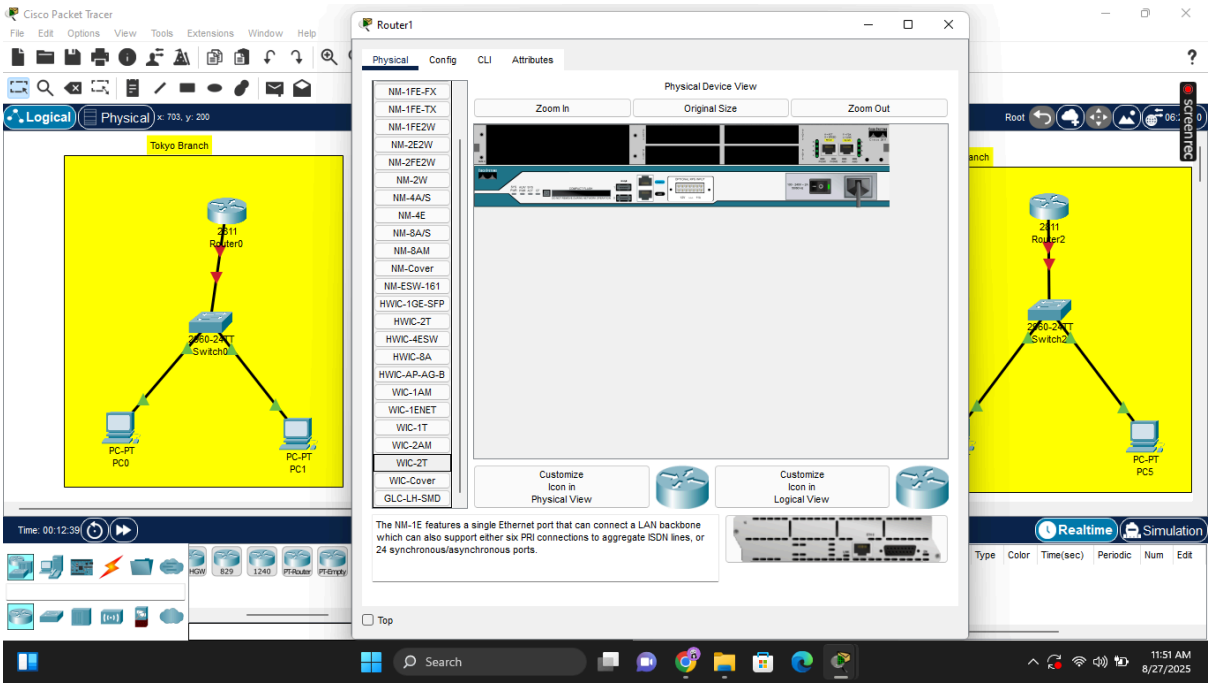
8. Module Selection on Router

Select the module on each router. Click on the router , go to the physical tab , from the physical tab go to the modules section and select the module “WIC-2T”.



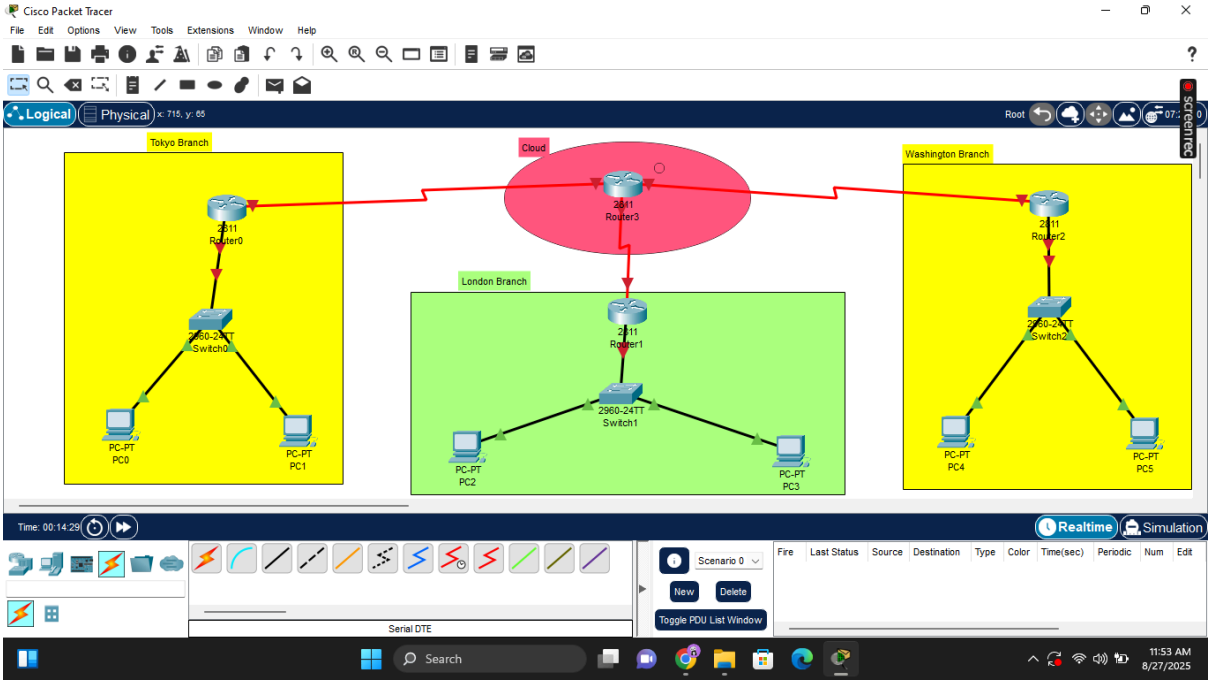
9.Adding Module

Power off the router by clicking the green light button , then add the module WIC-2T by simply dragging and dropping it at the black sections under the original size text. This module provides the facility of connecting a router to another router with the Serial cable. Then again power on the router after selecting the module and adding it. Do this for each single router in the topology.



10 Connecting with Cloud

Connect each branch with the cloud. For this connect each router with the Cloud branch router. Click the connection icon and select the serial cable from the cables , then go to the router of the Tokyo branch and click on the router and select any interface from the serial 0/0/0. Then go to the cloud router and use a serial port . Follow this for each branch router with the CLoud Branch.



Outcome

At the end of this lab, you will have a clean, professional-looking network topology showing how three international branches connect to each other logically over a shared cloud (internet).