PRACTICAL LAB: STATIC ROUTER CONFIGURATION 2

JORDAN ALLISON
jallison1@glos.ac.uk

Practical Lab: Static Router Configuration 2 - JA

Table of Contents

1 Introduction 2

2 Install Packet Tracer 2

3 Using Packet Tracer 3

4 Setting up Devices and Cabling 4

5 Device Configuration 5

6 Open a Web Page 8

7 Configure Static Routes 9

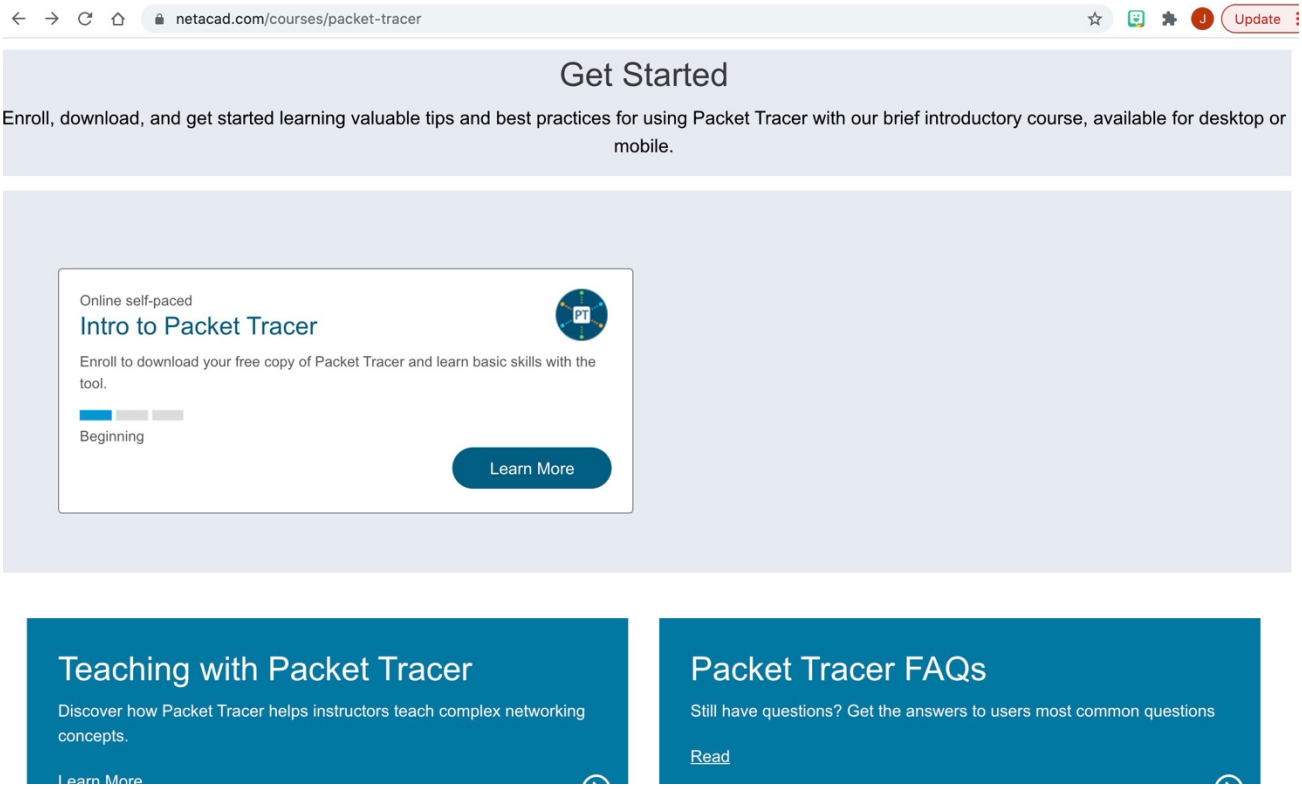
8 Open a Web Page (again) 10

1 Introduction

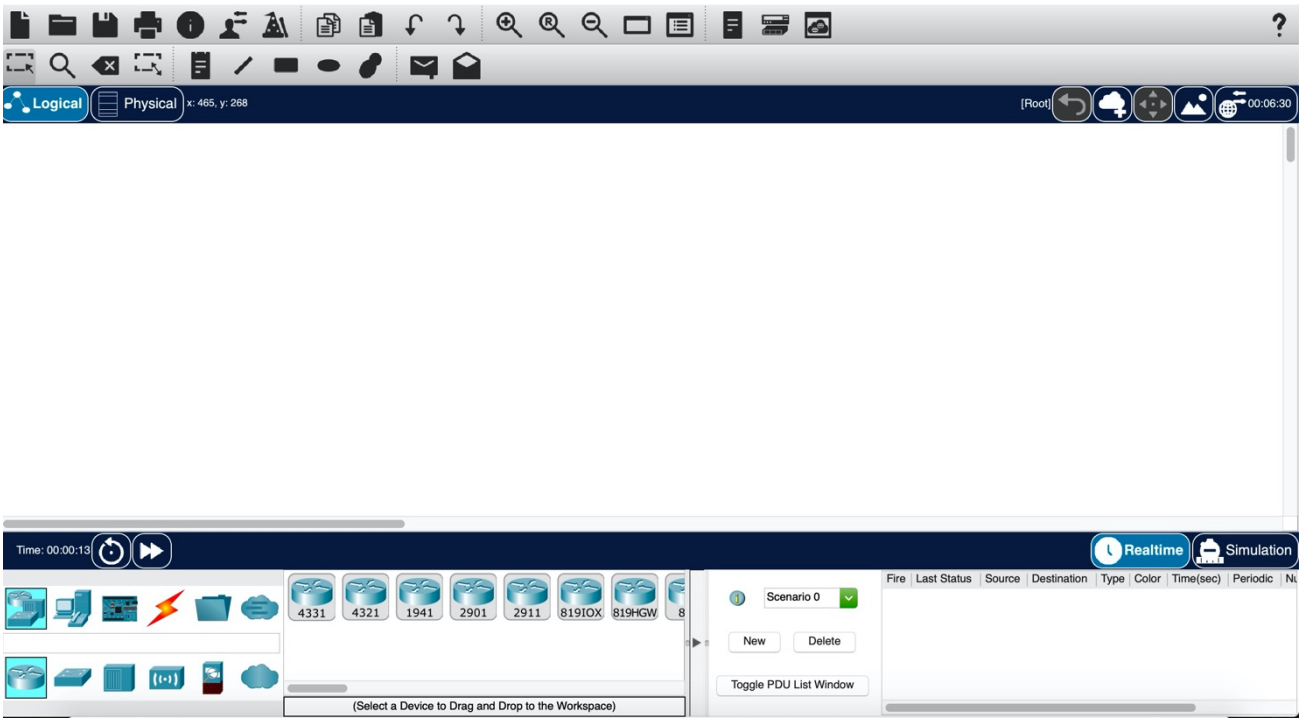
For this practical we will be using *Cisco Packet Tracer (student edition)*, a tool provided by Cisco to build and test Cisco networks.

2 Install Packet Tracer

Please download and install the Packet Tracer application. You can access this on university PCs or you can download it once you have enrolled to the 'Intro to Packet Tracer' on netacad.com (see below).

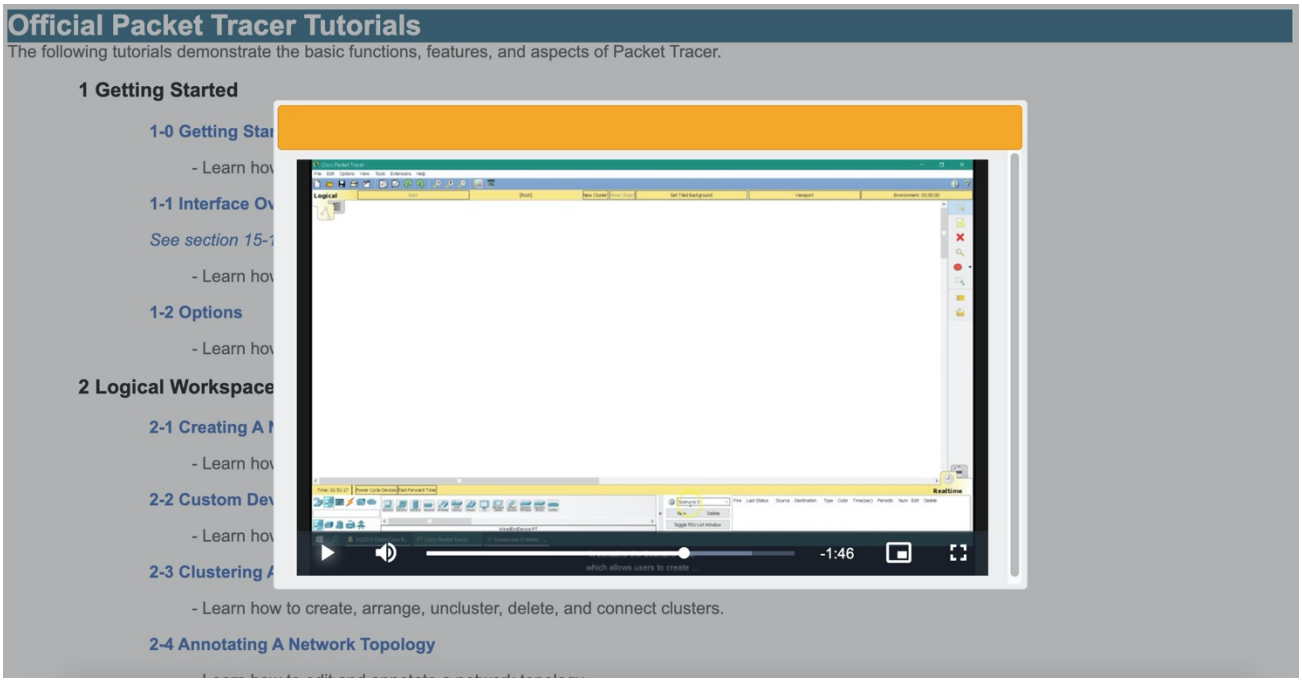


Run the install. Once completed, the *Cisco Packet Tracer Student* shortcut should appear on your desktop. Double click the shortcut, you show have a screen similar appear, as detailed in the figure below.



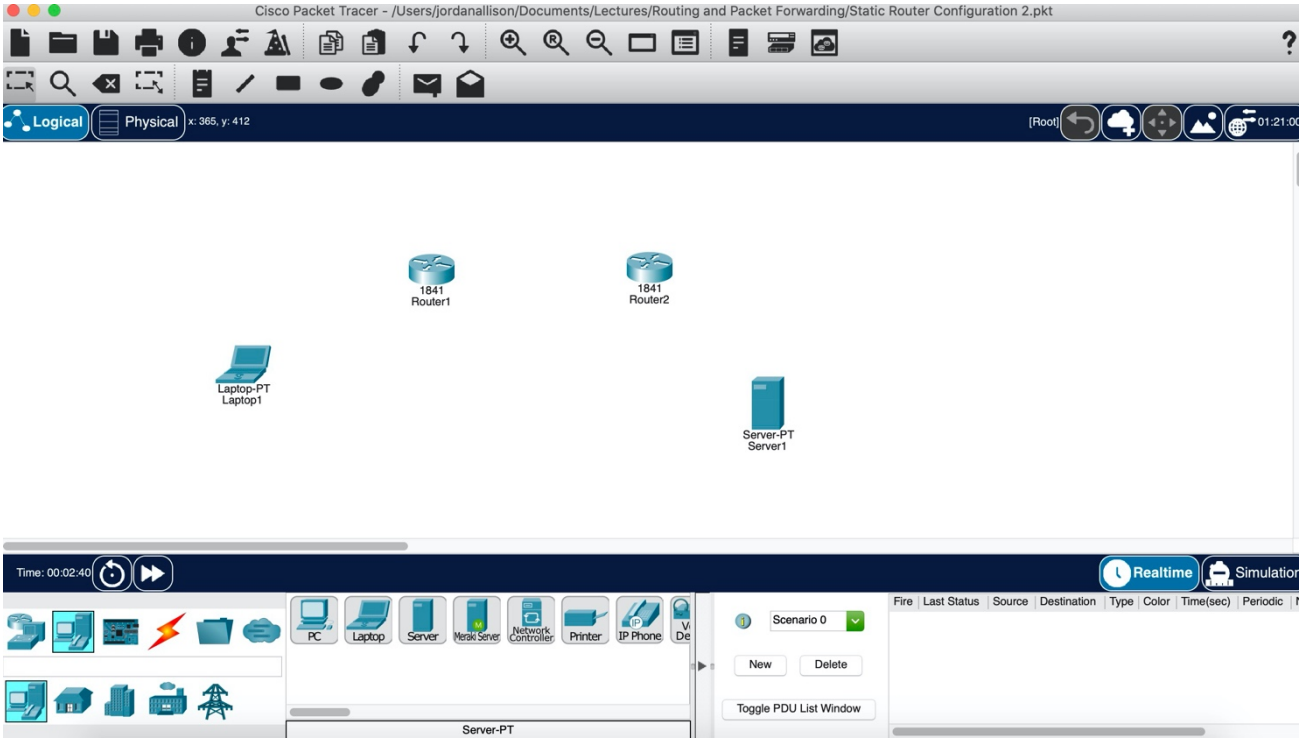
3 Using Packet Tracer

Watch the *Interface Overview* video. This is accessed by clicking Help, Tutorials and selecting Interface Overview in the Getting Started section.

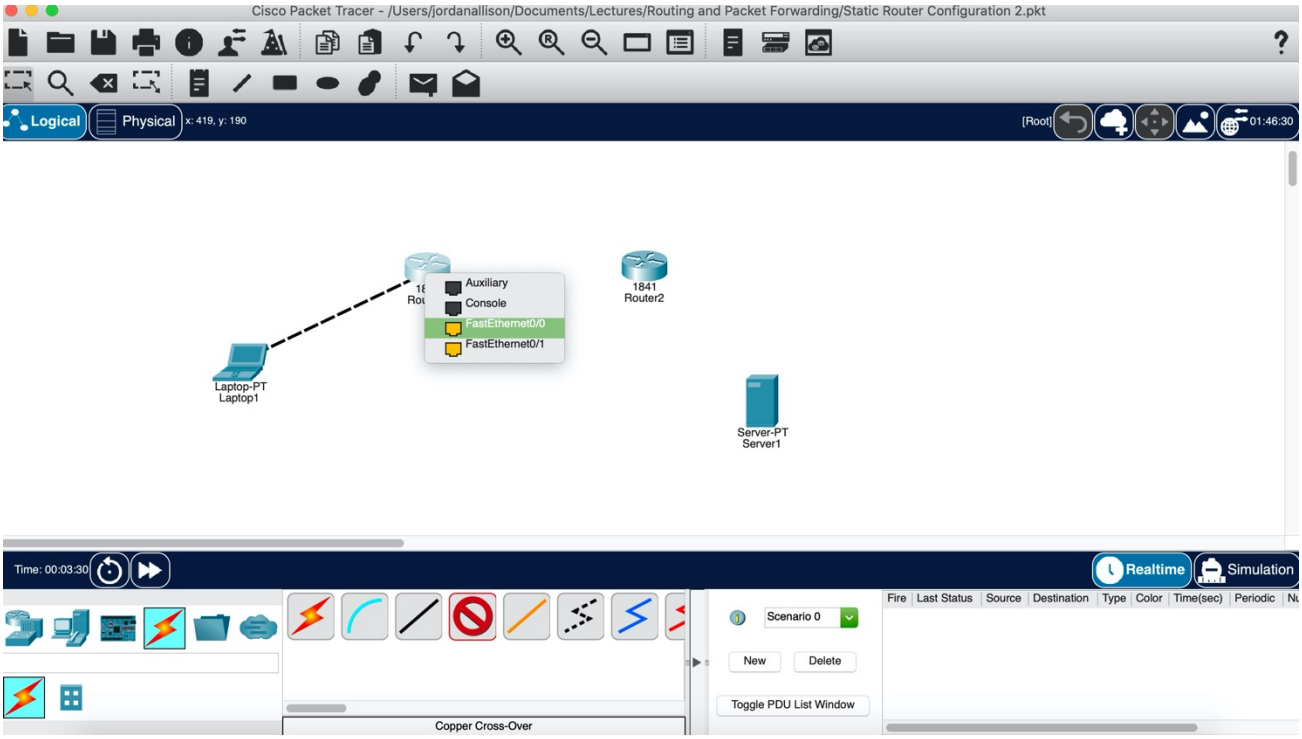


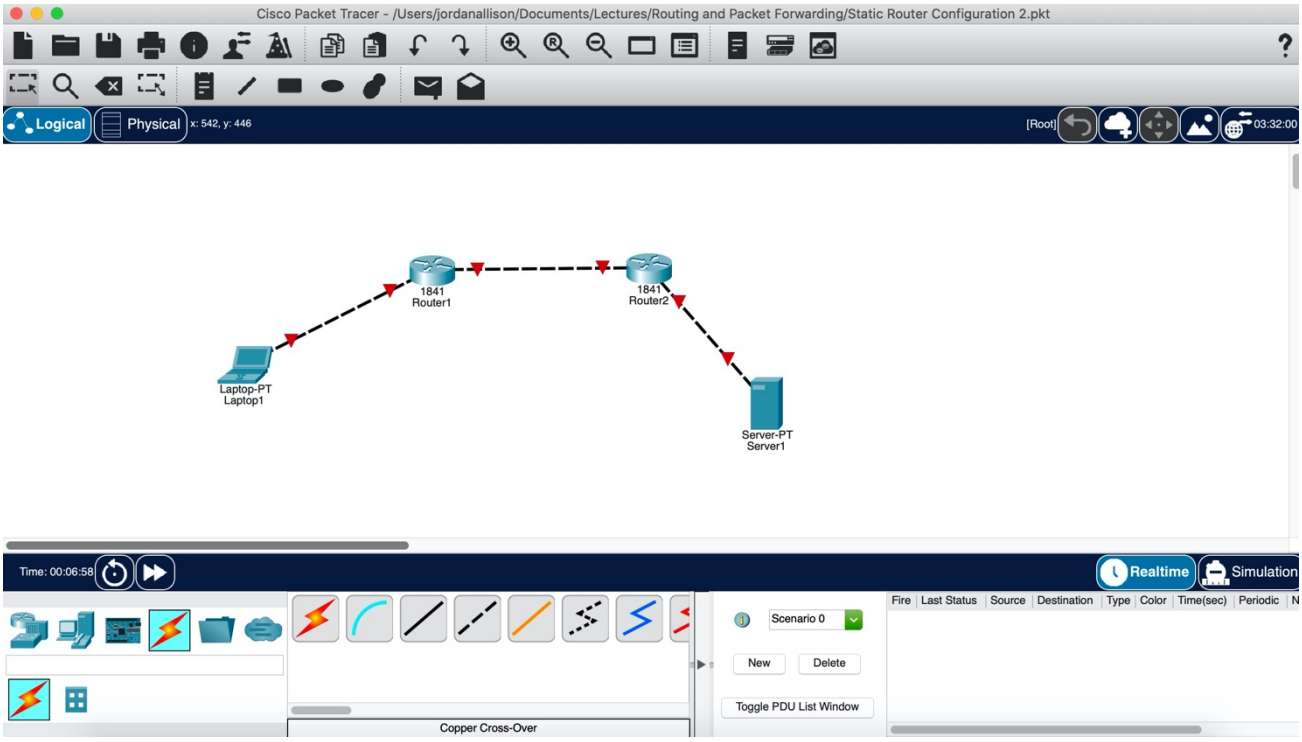
4 Setting up Devices and Cabling

Add 1 Laptop, 2 Routers (1841) and one server.



Unlike the previous lab, these 1841 routers do not have serial ports, so this time we will use the FastEthernet Ports to connect devices together. Use copper cross-over cabling.



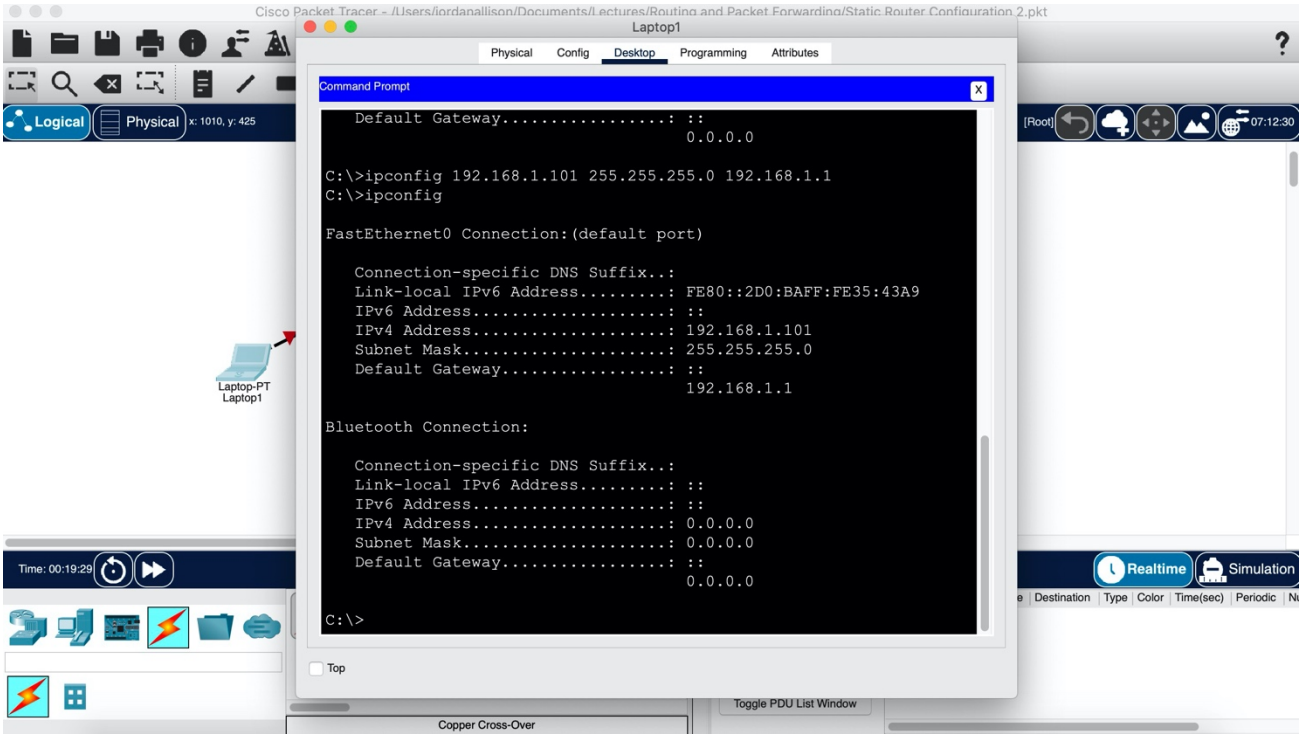


5 Device Configuration

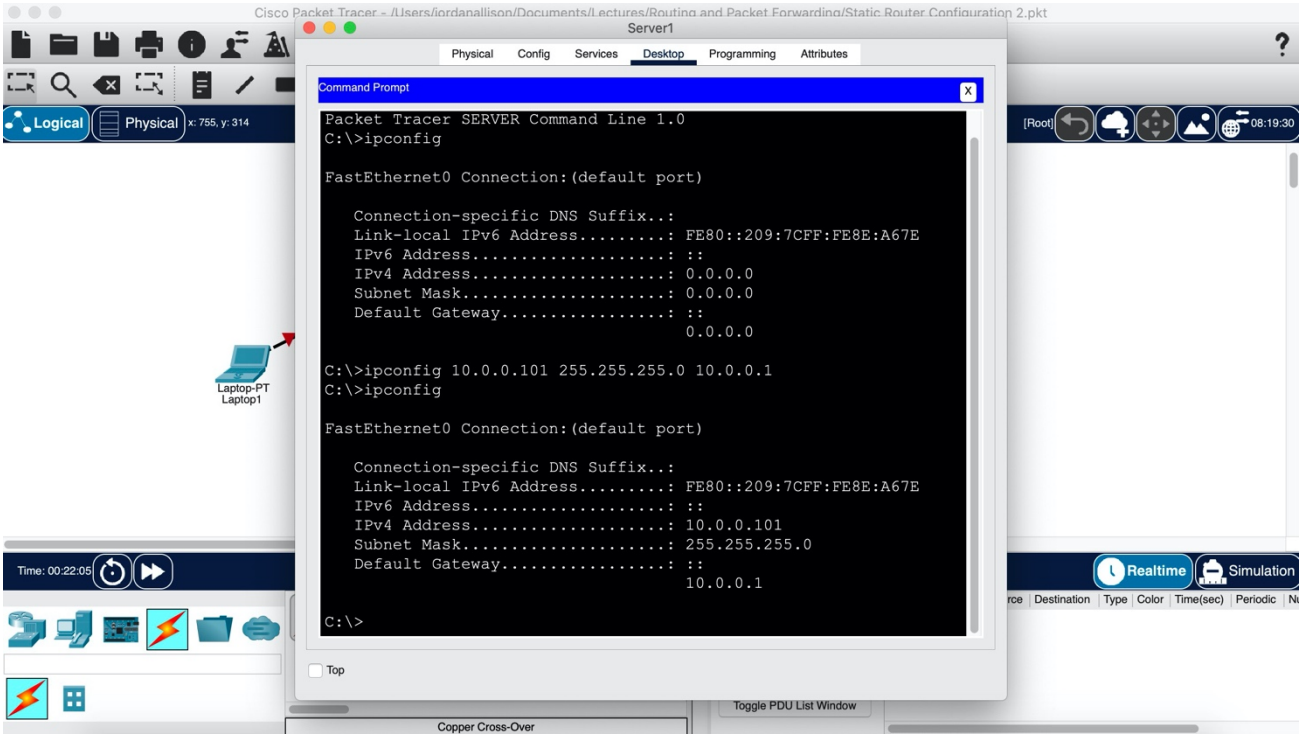
Configure the devise to have the following:

Device	Interface	IP Addresses	Subnet Mask	Default Gateway
Laptop	N/A	192.168.1.101	255.255.255.0	192.168.1.1
Server	N/A	10.0.0.101	255.255.255.0	10.0.0.1
Router 1	Fa0/0	192.168.1.1	255.255.255.0	N/A
	Fa0/1	172.16.1.1	255.255.255.0	N/A
Router 2	Fa0/0	172.16.1.2	255.255.255.0	N/A
	Fa0/1	10.0.0.1	255.255.255.0	N/A

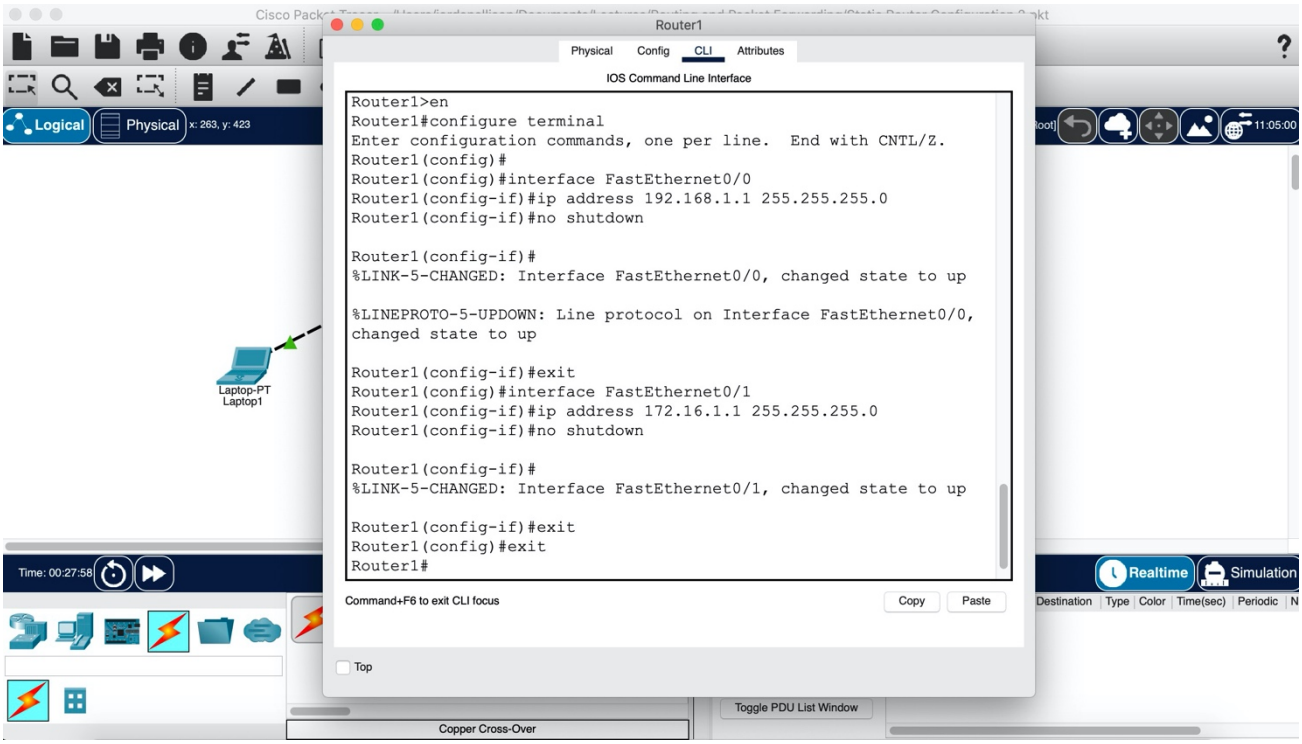
Configure the Laptop:



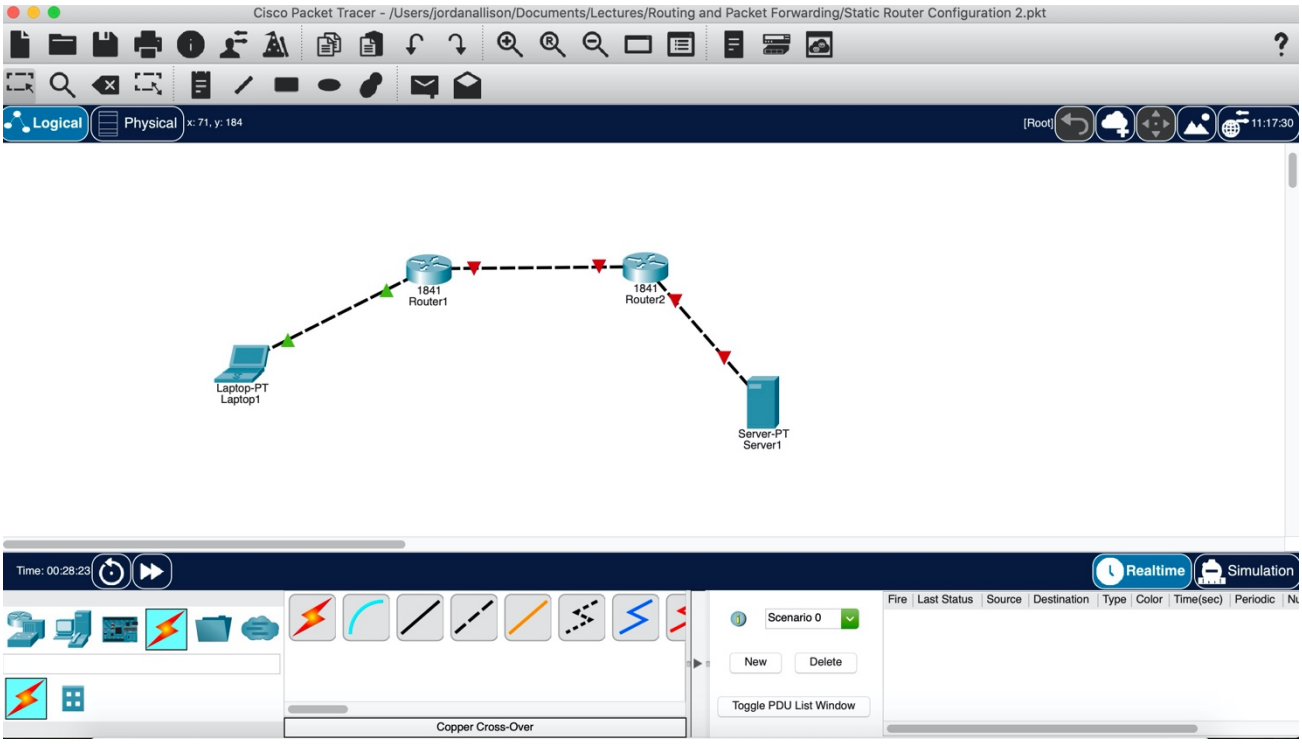
Configure the Server:



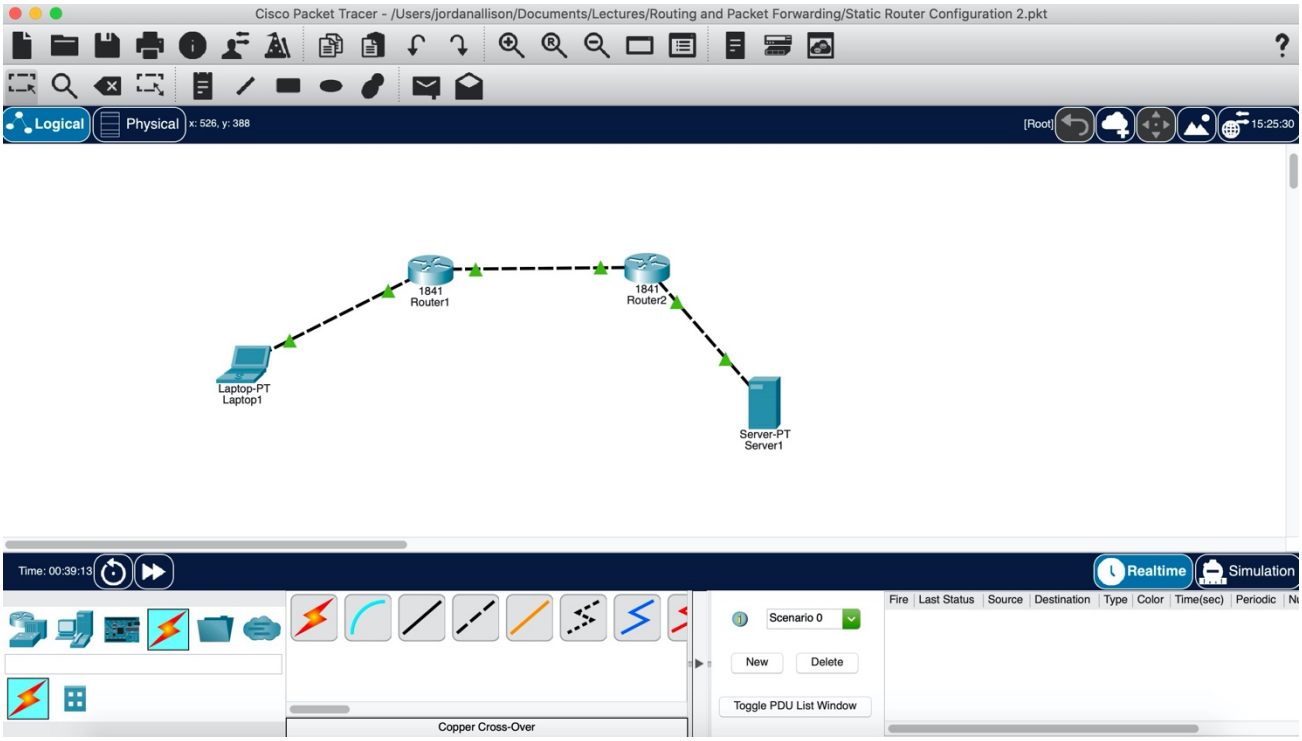
Configure Router 1:



The connection between the laptop and router 1 should show green now:

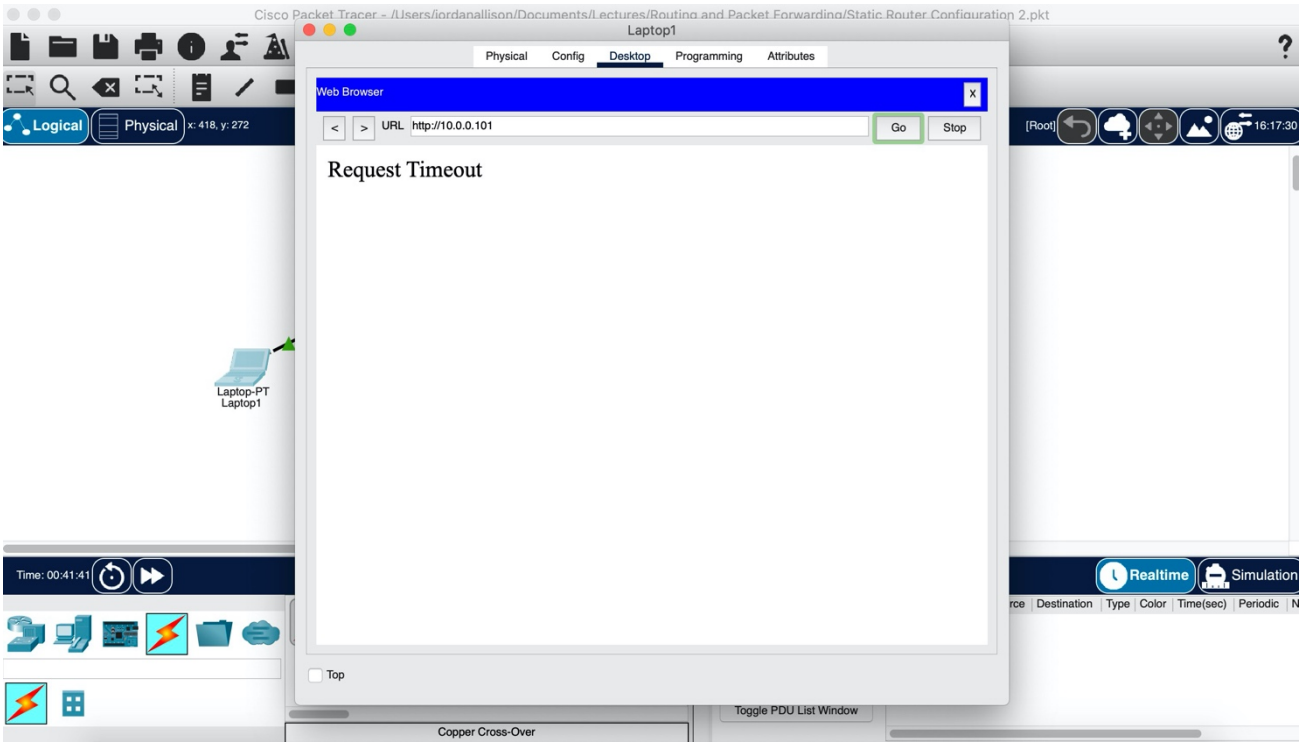


Configure Router 2 the same way but with its required configuration. Then all connections should show green:



6 Open a Web Page

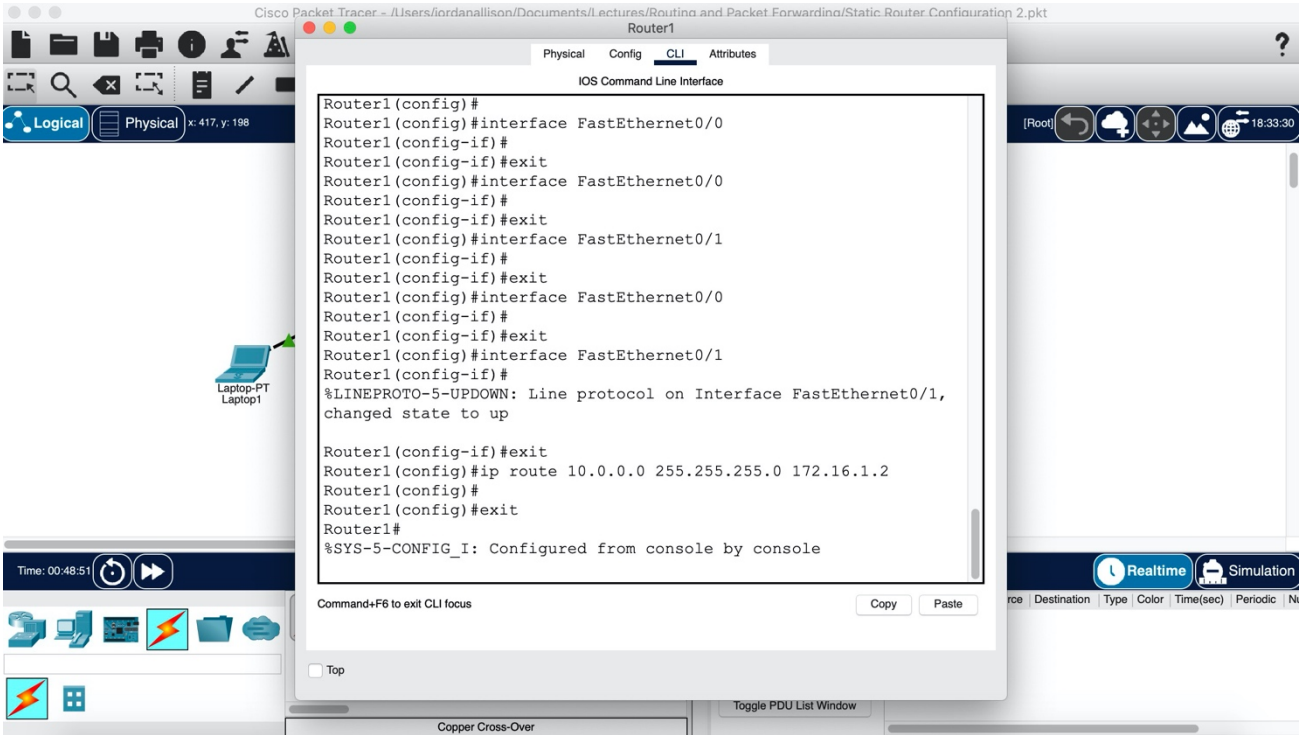
Click the Laptop. Click the Desktop tab. Then Click the Web Browser icon. Enter a URL of 10.0.0.101 and click the Go button.



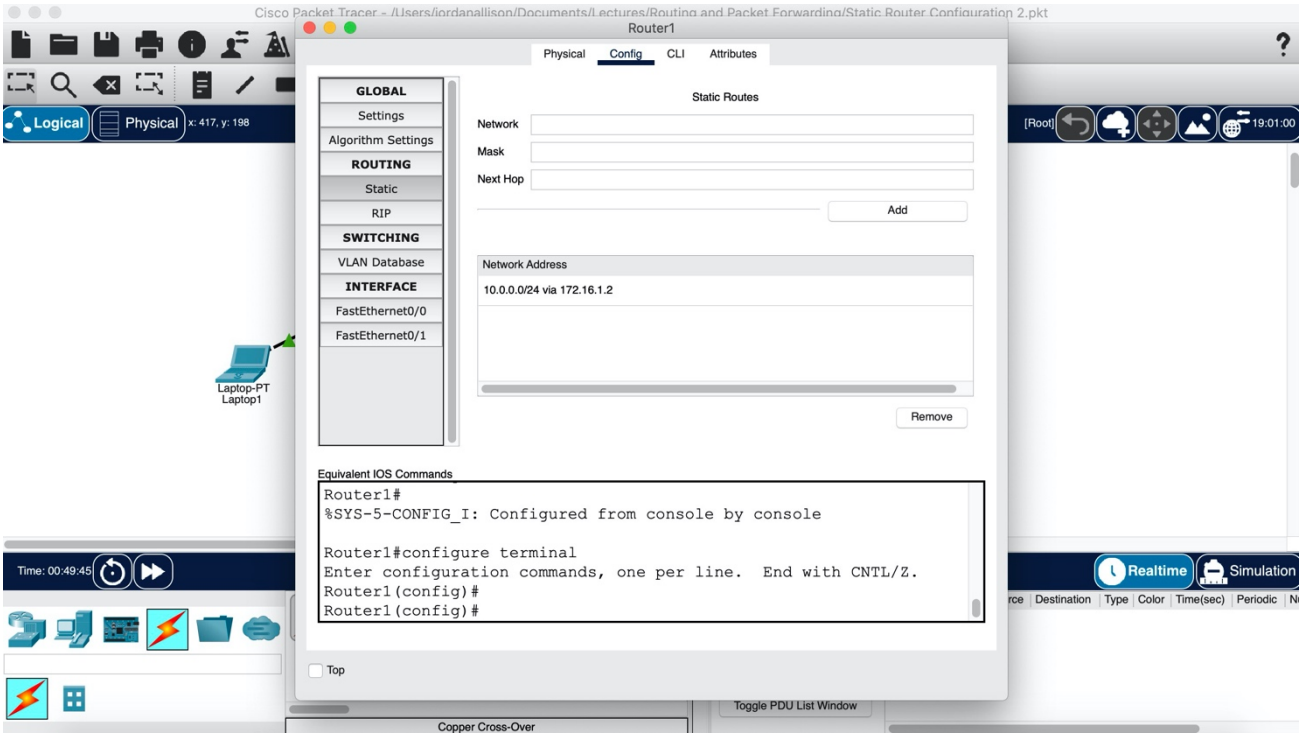
After a little while, you will see a "Request Timeout" message. This is because even though the addresses are all correct, and all the network links are active, the network cannot operate properly because the routers lacks routing information to deliver packets properly.

7 Configure Static Routes

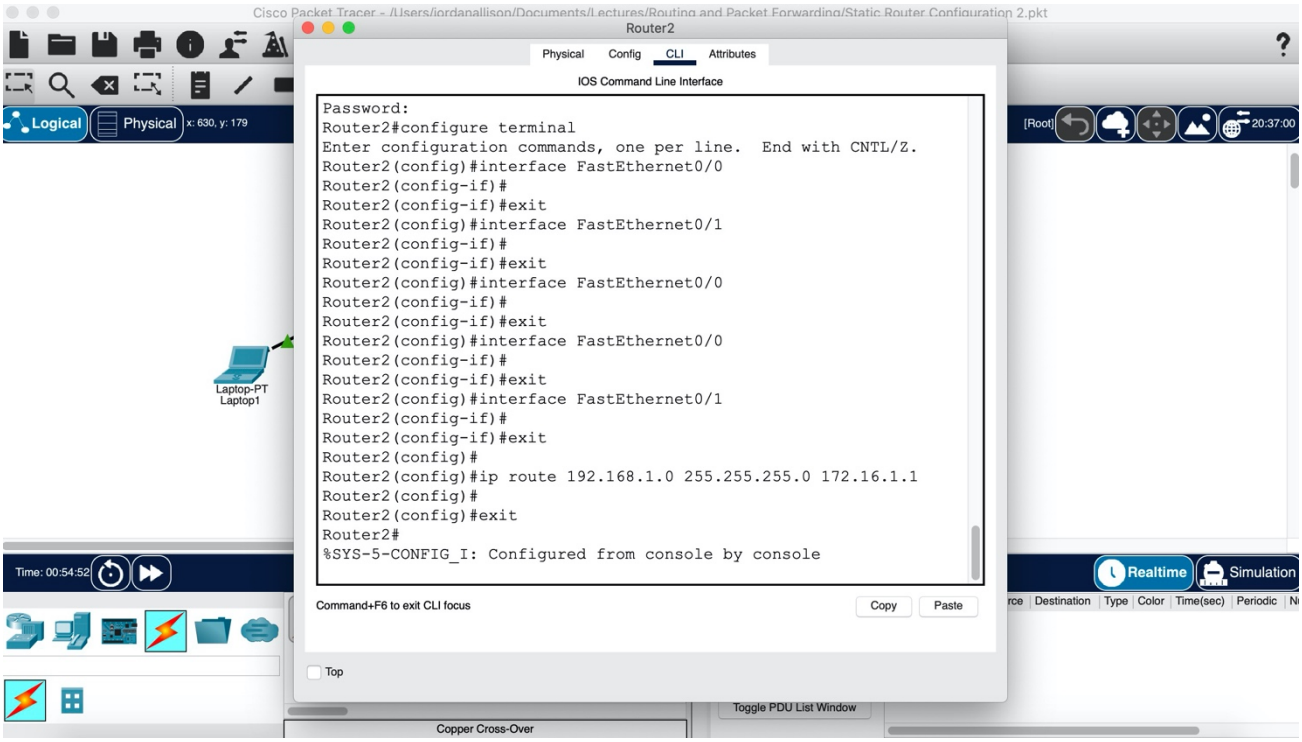
Configure Static Route on Router 1. Router1 is directly connected to the 192.168.1.0/24 network (which contains the laptop), and also to the 172.16.1.0/24 network (which connects the two routers together). However, it has no direct connection to the 10.0.0.0/24 network which contains the Server. Therefore, you need to tell Router 1 that the 10.0.0.0/24 network can be reached by sending packets to Router2, via the 172.16.1.2 interface.



You can check whether this has worked by clicking on the config tab of Router 1, then choose the Routing section on the left-hand side and click Static. It should be listed as below:

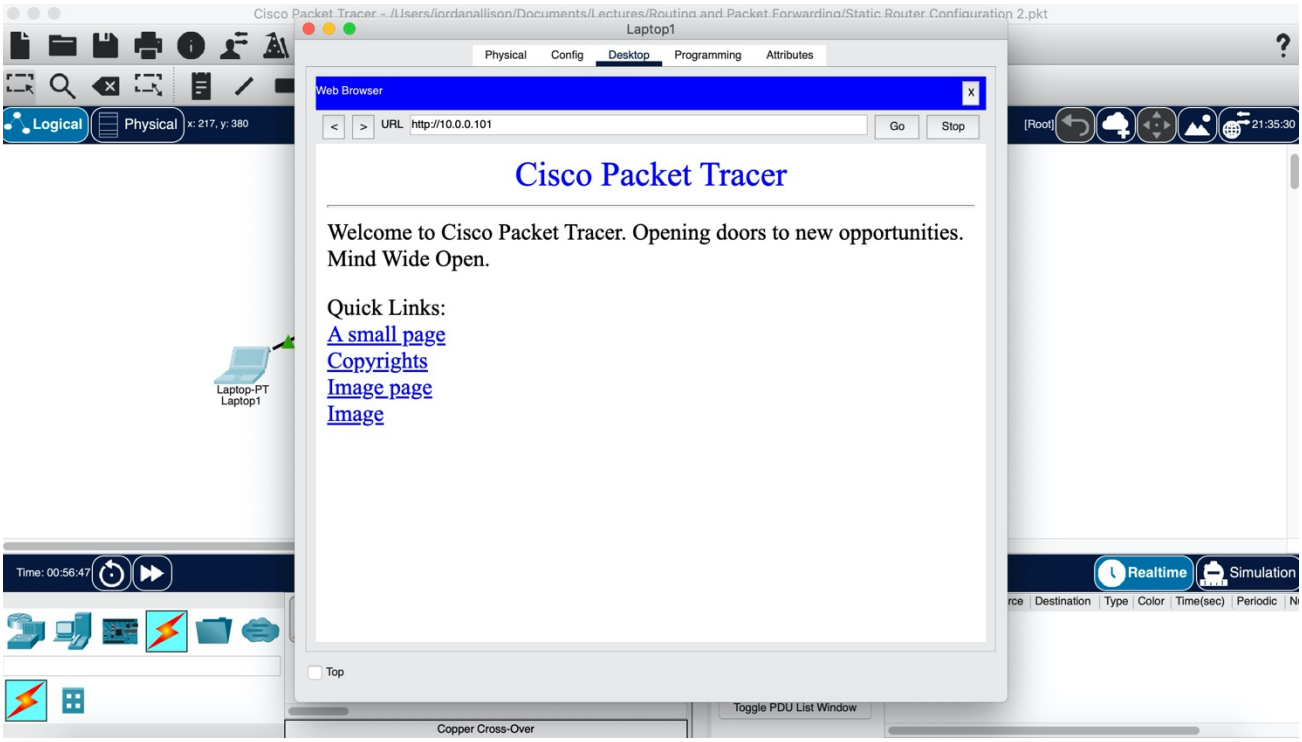


No configure the static route for Router 2 as below:

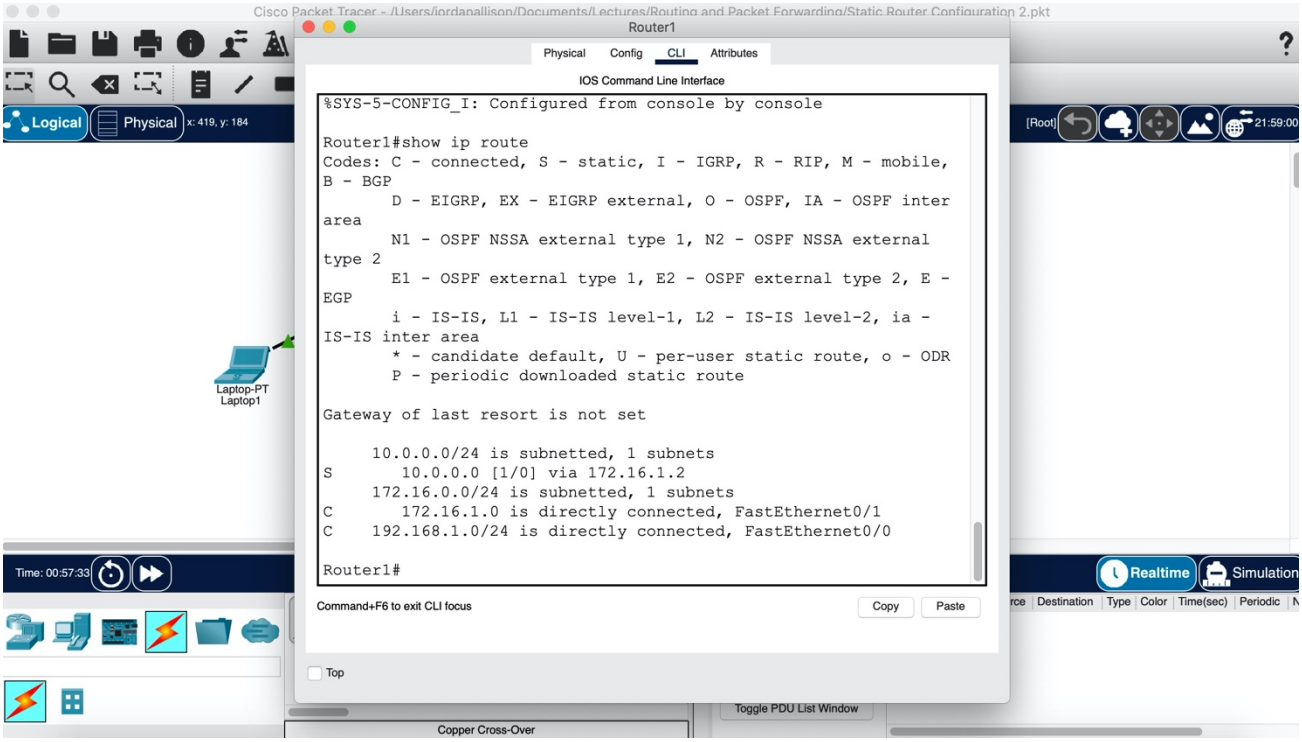


8 Open a Web Page (again)

Click the Laptop. Click the Desktop tab. Then Click the Web Browser icon. Enter a URL of 10.0.0.101 and click the Go button. This time it should work! Showing Cisco Packet Tracer at the top of the page as below:



Again, if we click on one of our routers and click on CLI and type 'show IP route' we should see three connections as below:



S – Indicates static routes

C – indicates connected routes