# Networking Module Practical

For the practical, you will set up a network with three routers, much as you did in Network Lab 5, Routing Protocols. The only difference is that Routers A and B now have three interfaces, and the connections to Router B use their own interfaces instead of sharing them with switches 2 and 4. There are now six networks (5 and 6 are new), where we had four networks in Lab 5.

This is not a test of your knowledge of Cisco router commands. If you can tell me exactly what you want to do (i.e.,” Make a default route for router A that goes to this IP address,” and not, “Make routing work.”), I will tell you the command you need.

I will configure the routers so that all interfaces are enabled, all use the password svgs to access enable mode, and all are accessible with SSH username svgs, password class. (SSH won’t work until you get the interfaces configured, of course.)

For hand in, please paste all screenshots into one document.

## Step one, Design (as a class, not individually)

Fill in the worksheet with the Network addresses, interface addresses, and computer addresses. Do not use the exact same network addresses that you used in Lab5—change them slightly. It will be easiest if you select the network addresses first (i.e., 192.168.200.0 255.255.255.0) and then fill in the interface and computer addresses.

Each of you should keep your own copy of the worksheet. Once you’ve agreed on your configuration, turn in one worksheet for the class.

## Step two, Simulate

Put your design into Packet Tracer and fix any errors. All computers and routers should be able to ping each other.

## Step three, Configure your computer and the closest router interface

Configure the router interface that connects to your switch with an IP address and mask, and configure the IP address, mask, and default gateway for your computer.

If both you and the group on the other side of your router have configured everything correctly, you should be able to ping each other. For example, Computer1A can ping Computer 2A.

### Hand in (individual)

Screenshot of:

* ipconfig on your computer
* your computer pinging the closest router interface.
* Your computer pinging a computer on the other side of the router

## Step four, Configure static routing on Routers A and C (as small groups)

Configure static routing on your router (A or C) so that it will be able to ping the other networks once Router B is configured. In Lab 5 we used a default route. Will that still work here?

### Hand in (individual)

A screenshot of the routing table of your router (A or C). You should be able to get it using SSH.

## Step five, Configure Router B (as a class)

First, configure the IP address and mask for the Router B interfaces. Check to see that Router B can ping the closest interfaces of Routers A and B. Do not move on until that works.

Then, configure the static routes for Router B. Hint: you will need statements to cover Networks 1, 2, 3 and 4.

If it all works, you should be able to ping the computers on the other side of the classroom.

### Hand in (individual)

Screenshot of:

* Routing table for Router B
* Your computer pinging computers on the other side of the classroom

## Step six, Configure RIP (as a class, if time allows)

Remove the static routes from all three routers (no ip route …).

Add the following to each router:

router rip  
 version 2  
 network xxx.xxx.xxx.0 (one for each network on your router. Routers A and C will have three, Router B will have two.)

### Hand in (individual, if time allows)

Screenshots of the routing tables from all three routers once RIP is working.

A close up of a screen

Description generated with high confidence