

# CS4471 Static Routing Lab (ver 1.1)

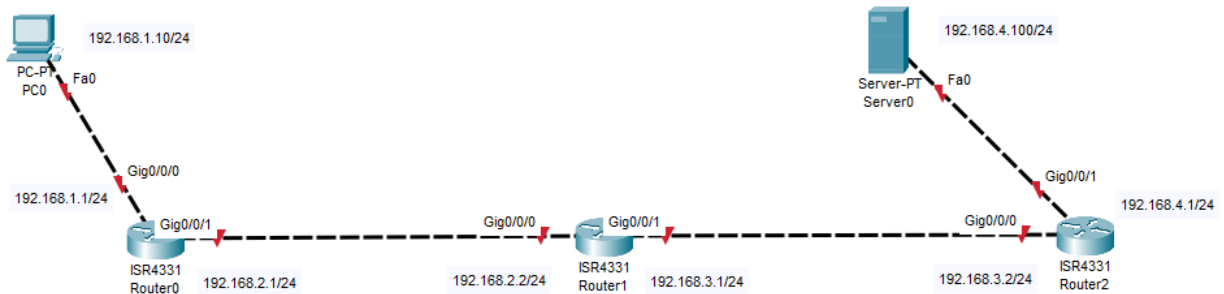
(when in doubt, use the command line interface ? character)

Name \_\_\_\_\_

CIN \_\_\_\_\_

Date \_\_\_\_\_

Routers can be configured with static routes in order that the routers know how to forward IP packets. To see how static routes affect routing behavior, use Cisco Packet Tracer to create the following network.



- (1pt) Submit a screenshot of your network drawn. Make sure all port labels are shown (*options > preferences*).
- (1pt) On PC0, configure IP address, netmask, and default gateway. On Router0, configure IP address and netmask of interface G0/0/0 and G0/0/1. On PC0, submit screenshot(s) showing that PC0 can ping both IP addresses of Router0's network interfaces.
- (1pt) On Router1, configure its IP address and netmask on both network interfaces. In Simulation mode, note that in the absence of additional routing information on Router1, PC0 cannot successfully ping Router1's IP 192.168.2.2. Add a static route on Router1 so that it knows how to forward IP packets destined for network 192.168.1.0/24.
  - What static route did you have to add on Router1?
  - Submit screenshot(s) from PC0 showing that PC0 can successfully ping and traceroute to 192.168.2.2.
- (2pt) On Router2, configure its IP address and netmask on both network interfaces. Note that in the absence of additional routing information on the routers, PC0 cannot ping Router2's IP address 192.168.3.2 (Simulation mode should show that the ping packets are being dropped). Configure default static routes on routers Router0 and Router2 in order that PC0 can ping Router2's IP address 192.168.3.2.
  - What default static route did you have to configure on Router0 and Router2?
  - Submit screenshot(s) from PC0 showing that PC0 can successfully ping and traceroute to 192.168.3.2.

5. (2pts) On Server0, configure its IP address, netmask, and default gateway. In Simulation mode, note that PC0 cannot ping Server0 because one of the routers does not know where to forward the packet. Configure a needed static route on Router0, Router1, or Router2 in order that PC0 can ping Server0's IP address 192.168.4.100.
  - a. What additional static route did you have to add to a router's configuration? On which router was this static route added?
  - b. Submit screenshot(s) from PC0 showing that PC0 can successfully traceroute to 192.168.4.100.
  
6. (1.5pts) On each of the three routers, submit screenshots of output of "show ip route". Note that the routing tables should show how each router will forward IP packets destined to different subnets.
  
7. (1.5pts) Submit the entire configuration file of each of the three routers ( copy and paste output of "show running-config").