

CS4471 NAT(Network Address Translation) Lab (version 1.4)

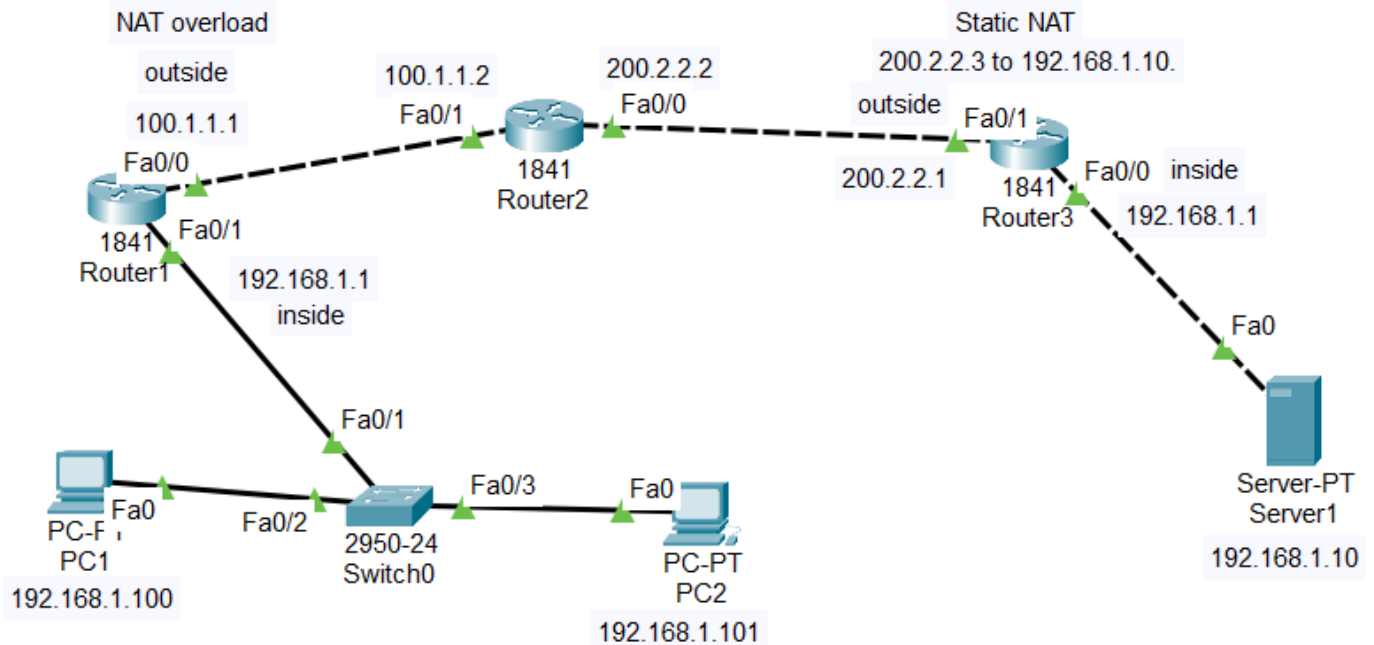
Name _____

CIN _____

Group _____

Use Cisco Packet Tracer to create the network shown below.

- configure the hostnames and IP addresses as shown. Subnet mask should be 255.255.255.0 for all devices.
- default gateway of PC1, PC2, and Server1 should be 192.168.1.1
- interconnect the devices with appropriate Ethernet cables and verify that all links are up.



- (1 pt) Submit screenshot of Cisco Packet Tracer network diagram created. Make sure that the port labels are shown (Options->Preferences->Show Port Labels). Make sure that your screenshot also includes IP addresses of each router interface and computer as shown in above diagram (hint: place notes).
- Configure NAT overload on Router1 to translate source IP address of traffic generated from inside network 192.168.1.0/24 to IP address of outside interface 100.1.1.1. From PC1 and PC2, verify that you can ping Router2's IP address 100.1.1.2.
 - (1pt) Submit screenshot of output of command "show ip nat translations" executed on CLI (command line interface) of Router1. The output should show inside local, inside global, outside local, and outside global values associated with ping traffic generated earlier. If you don't see anything, you may need to generate ping traffic again from PC1 and PC2 to Router2's IP address 100.1.1.2.
 - (1pt) Turn on NAT debugging in router via "debug ip nat" from router's enable mode (not global-config mode). Provide screenshot of output of NAT debugging. If you don't see anything, you may need to generate ping traffic again from PC1 and PC2 to Router2's IP address 100.1.1.2.
- (1pt) Configure static NAT on Router3 to translate server1 IP address 192.168.1.10 to 200.2.2.3. From Server1, verify that you can ping Router2's IP address 200.2.2.2. Submit screenshot of output of command "show ip nat translations" executed on CLI (command line interface) of Router3. The output should show inside local, inside global, outside local, and outside global values associated with ping traffic generated earlier. If you don't see anything, you may need to generate ping traffic again from Server1 to Router2's IP address 200.2.2.2.

4. (1 pt) On PC1, verify that you can ping 200.2.2.1. What static or default routes need to be configured on Router1 and Router3 in order for the ping to be successful?
5. (1pt) On Router3, turn on NAT debugging in router via “debug ip nat” from router’s enable mode (not global-config mode). Provide screenshot of output of NAT debugging when PC1 is pinging 200.2.2.3. The screenshot should show the static NAT translation in action.
6. (2pts) On Server1, verify that web service is turned on. On PC1, verify that you can ping 200.2.2.3. On PC1, open a web browser to <http://200.2.2.3> .
 - a. Submit a screenshot of the web page displayed on the web browser.
 - b. Submit screenshot of output of command “show ip nat translations” executed on CLI (command line interface) of Router1
 - c. Submit screenshot of output of command “show ip nat translations” executed on CLI (command line interface) of Router3
7. (2 pts) submit printout of entire output of “show running-config” from CLI of Router1 and Router3.