

CCNA(640-802) Lab ? NAT(New)

NAT is Short for **Network Address Translation**, an Internet standard that enables a local-area network (LAN) to use one set of IP addresses for internal traffic and a second set of addresses for external traffic. A *NAT box* located where the LAN meets the Internet makes all necessary IP address translations. NAT serves three main purposes:

- Provides a type of firewall by hiding internal IP addresses
- Enables a company to use more internal IP addresses. Since they're used internally only, there's no possibility of conflict with IP addresses used by other companies and organizations.
- Allows a company to combine multiple ISDN connections into a single Internet connection.

I suggest you should study NAT knowledge carefully, and then start following lab.

A network associate is configuring a router for the P4S company to provide Internet access. The ISP has provided the company with six public IP addresses of 198.18.237.225 - 198.18.237.230. The company has 14 hosts that need to access the Internet simultaneously. The hosts in the company LAN have been assigned private space addresses in the range of 192.168.16.33 - 192.168.16.46.

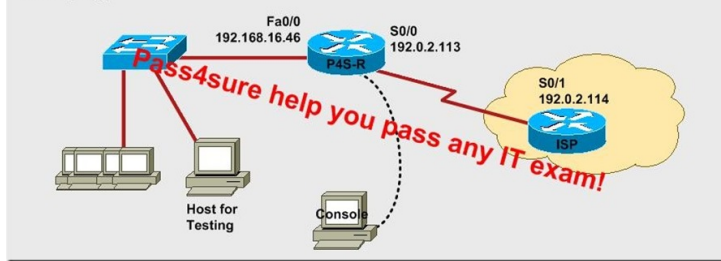
The following have already been configured on the router:

- The basic router configuration
- The appropriate interfaces have been configured for NAT inside and NAT outside.
- The appropriate static routes have also been configured (since the company will be a stub network, no routing protocol will be required)
- All passwords have been temporarily set to "cisco".

The task is to complete the NAT configuration using all IP addresses assigned by the ISP to provide Internet access for the hosts in the Bomar LAN. You have successfully completed this exercise when the host PC can ping the ISP.

Configuration information
router name - P4S-R
inside global addresses- 198.18.237.225 - 198.18.237.230/29
inside local addresses - 192.168.16.33 - 192.168.16.46/28
number of inside hosts - 14

The Topology



NAT SIM Configuration: The following configuration translates between inside hosts addressed from 192.168.16.33 /28 network (192.168.16.33 ? 192.168.16.46) to the globally unique pool of address provided by ISP 198.18.237.225 ? 198.18.237.230 /29.

P4S-R>enable P4S-R#configure terminal Before starting the NAT configuration verify that router hostname currently configured is P4S-R. If not change hostname to P4S-R using the command Router(config)#hostname P4S-R **Step1:** Create an access-list to match all the P4S-R LAN address that need to be the candidates for NAT translations P4S-R(config)#access-list 10 permit 192.168.16.32 0.0.0.15 **Step2:** Create a NAT Pool with pool name isp_p4s and specify the pool address range provided by ISP with their netmask. P4S-R(config)#ip nat pool isp_p4s 198.18.237.225 198.18.237.230 netmask 255.255.255.248 **Step3:** Packets that match access-list 10 will be translated to an address from the pool called "isp_p4s". **Overload** keyword specify to use Port based NATing to support all the P4S-R LAN address range. P4S-R(config)#ip nat inside source list 10 pool isp_p4s overload SIM Question already provides that appropriate interfaces have been configured for NAT Inside and NAT Outside statements. For your information configuration would have been like this: P4S-R(config)#interface fastethernet 0/0 P4S-R(config-if)#ip nat inside P4S-R(config-if)#no shutdown P4S-R(config)#interface serial 0/0 P4S-R(config-if)#ip nat outside P4S-R(config-if)#no shutdown **Functionality Test:** Our requirements are to allow the hosts (P4S-R LAN) the ability to communicate with the Internet. For this test, we ping the Internet device (ISP router S0/1) from Host for testing. **Step4:** Go to **host for testing:** C:>ping 192.0.2.114 PING should be success to 192.0.2.114 since SIM question provides that static route is already configured on router. **Step5:** On console of router (P4S-R) : Issue **show ip nat translation** command to verify the NAT translations. Sample output: Considering **host for testing** IP address is 192.168.16.33 P4S-R# show ip nat translation Pro Inside global Inside local Outside local Outside global icmp 198.18.237.225:434 192.168.16.33:434 192.0.2.113:434 192.0.2.114:434 icmp 198.18.237.225:435 192.168.16.33:435 192.0.2.113:435 192.0.2.114:435 icmp 198.18.237.225:436 192.168.16.33:436 192.0.2.113:436 192.0.2.114:436 icmp 198.18.237.225:437 192.168.16.33:437 192.0.2.113:437 192.0.2.114:437 icmp 198.18.237.225:438 192.168.16.33:438 192.0.2.113:438 192.0.2.114:438 **Step 6:** Important please do not forget to save your running-config to startup-config P4S-R2# copy run start **That is all, hope to helpful for you. Best Luck for ur CCNA 640-802 Exam.** If you need the complete pass4sure test questions for 640-802 Exam, you can visit [Latest Pass4sure 640-802](#).(Pass4sure 640-802 Questions with explaintion) maybe it helpful for ur exam.