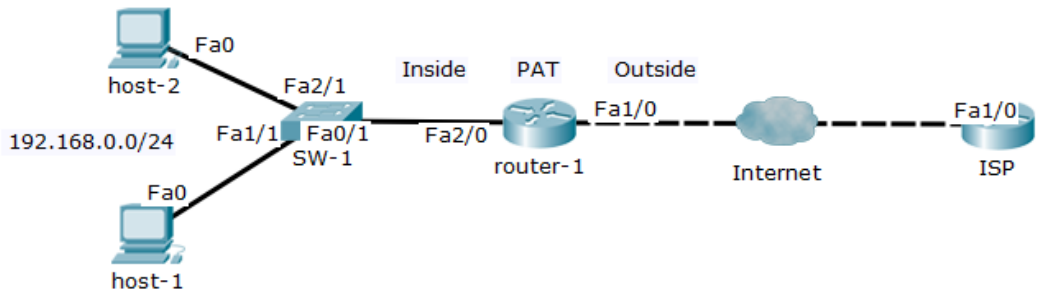
Port Address Translation

Lab Summary

Configure port address translation (NAT overload) based on a pool of assigned public IP addresses from the ISP. In addition permit all internal hosts assigned to 192.168.0.0/24 subnets access to the internet.

Figure 1 Lab Topology



Lab Configuration

Start Packet Tracer File: **Port Address Translation**

Click on the *Router-1* icon and select the *CLI* folder. Hit the <enter> key for user mode prompt (>).

Step 1: Enter global configuration mode.

router-1 > **enable**
Password: **cisconet**
router-1# **configure terminal**

Step 2: Assign the inside NAT interface on router-1.

router-1(config)# **interface fastethernet2/0**
router-1(config)# **ip address 192.168.1.3 255.255.255.0**
router-1(config-if)# **ip nat inside**
router-1(config-if)# **no shutdown**
router-1(config-if)# **exit**

Step 3: Assign the outside NAT interface on router-1.

router-1(config)# **interface fastethernet1/0**
router-1(config-if)# **ip address 172.33.1.1 255.255.255.0**
router-1(config-if)# **ip nat outside**

router-1(config-if)# **no shutdown**
router-1(config-if)# **exit**

Step 4: Create a pool name *cisconet* and assign public IP address range of 172.33.1.1/24 - 172.33.1.1/24 on router-1.

router-1(config)# **ip nat pool cisconet 172.33.1.1 172.33.1.1 netmask 255.255.255.0**

Step 5: Configure ACL 100 to permit private IP address range for hosts assigned to all 192.168.0.0/16 subnets.

router-1(config)# **access-list 100 permit ip 192.168.0.0 0.0.255.255 any**

Step 6: Assign ACL 100 to pool name *cisconet* and enable port address translation.

router-1(config)# **ip nat inside source list 100 pool cisconet overload**
router-1(config)# **end**
router-1# **copy running-config startup-config**

Step 7: Verify Lab

Confirm the configuration is correct and ping the internet web server to verify port address translation is working correctly. The translation table lists the inside host IP address (192.168.1.1) and public IP address is allocated from the pool *cisconet* (172.33.1.1).

router-1# **show running-config**

host-1: c:\> **ping 172.33.1.254**

router-1# **show ip nat translations**

Pro	Inside global	Inside local	Outside local	Outside global
icmp	172.33.1.1:1	192.168.1.1:1	172.33.1.254:1	172.33.1.254:1
icmp	172.33.1.1:2	192.168.1.1:2	172.33.1.254:2	172.33.1.254:2
icmp	172.33.1.1:3	192.168.1.1:3	172.33.1.254:3	172.33.1.254:3
icmp	172.33.1.1:4	192.168.1.1:4	172.33.1.254:4	172.33.1.254:4
icmp	172.33.1.1:5	192.168.1.1:5	172.33.1.254:5	172.33.1.254:5
icmp	172.33.1.1:6	192.168.1.1:6	172.33.1.254:6	172.33.1.254:6