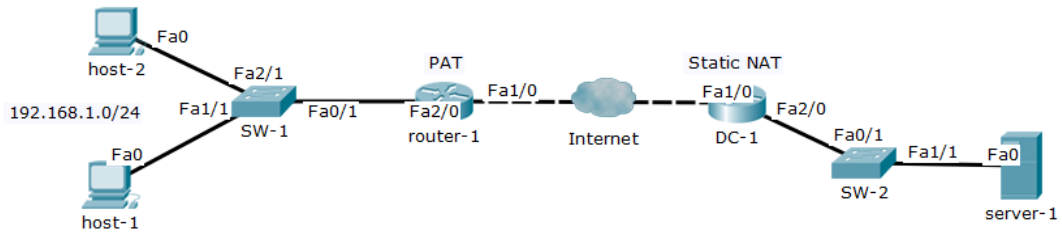
Static NAT

Lab Summary

Configure port address translation based on the public IP address assigned to the outside interface of router-1. In addition, permit all internal hosts assigned to 192.168.0.0/24 subnets access to the internet. Configure static NAT on router-2 between the outside public interface and the private IP address of the web server.

Figure 1 Lab Topology



Lab Configuration

Start Packet Tracer File: **Static NAT**

Router-1

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 interface Fa2/0

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 interface Fa1/0

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: Assign router-1 interface FastEthernet1/0 (172.33.1.1) as the single public IP address for translations.

router-1(config)# **ip nat inside source list 100 interface Fa1/0 overload**

Step 5: Configure ACL 100 to permit private host IP address range from 192.168.0.0 - 192.168.255.255 on router-1.

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

DC-1

Click on the *router-2* icon and select the *CLI* folder. Hit the <enter> key for user mode prompt (>).

Step 6: Enter global configuration mode

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

Step 7: Assign the inside NAT interface on DC-1 interface Fa2/0

DC-1(config)# **interface fastethernet2/0**
DC-1(config)# **ip address 192.168.3.3 255.255.255.0**
DC-1(config-if)# **ip nat inside**
DC-1(config-if)# **no shutdown**
DC-1(config-if)# **exit**

Step 8: Assign the outside NAT interface on DC-1 interface Fa1/0

DC-1(config)# **interface fastethernet1/0**
DC-1(config-if)# **ip address 172.33.1.254 255.255.255.0**
DC-1(config-if)# **ip nat outside**
DC-1(config-if)# **no shutdown**
DC-1(config-if)# **exit**

Step 9: Configure static NAT between outside global address (172.33.1.254) and inside local address of the web server (192.168.3.1).

DC-1(config)# **ip nat inside source static tcp 192.168.3.1 80 172.33.1.254 80**
DC-1(config)# **end**
DC-1# **copy running-config startup-config**

Step 10: Verify Lab

Confirm the configuration is correct and ping the internet web server to verify port address translation (overload) is working correctly. In addition, start web browser and confirm HTTP session is working correctly to the web server.

The translation table lists the inside host IP address (192.168.1.1) and public IP address of 172.33.1.1 (outside global address) for router-1. There are port numbers assigned to the single public IP address enabling multiple internet sessions based on that single IP address. The second translation table confirms the static NAT for router-2 with translation between global and private IP addresses.

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

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

host-1: **http://172.33.1.254**

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

Pro	Inside global	Inside local	Outside local	Outside global
icmp	172.33.1.1:15	192.168.1.1:15	172.33.1.254:15	172.33.1.254:15
icmp	172.33.1.1:16	192.168.1.1:16	172.33.1.254:16	172.33.1.254:16
icmp	172.33.1.1:17	192.168.1.1:17	172.33.1.254:17	172.33.1.254:17
icmp	172.33.1.1:18	192.168.1.1:18	172.33.1.254:18	172.33.1.254:18

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

Pro	Inside global	Inside local	Outside local	Outside global
tcp	172.33.1.254:80	192.168.3.1:80	---	---

The source IP address and destination IP address are rewritten for all inbound and outbound traffic.