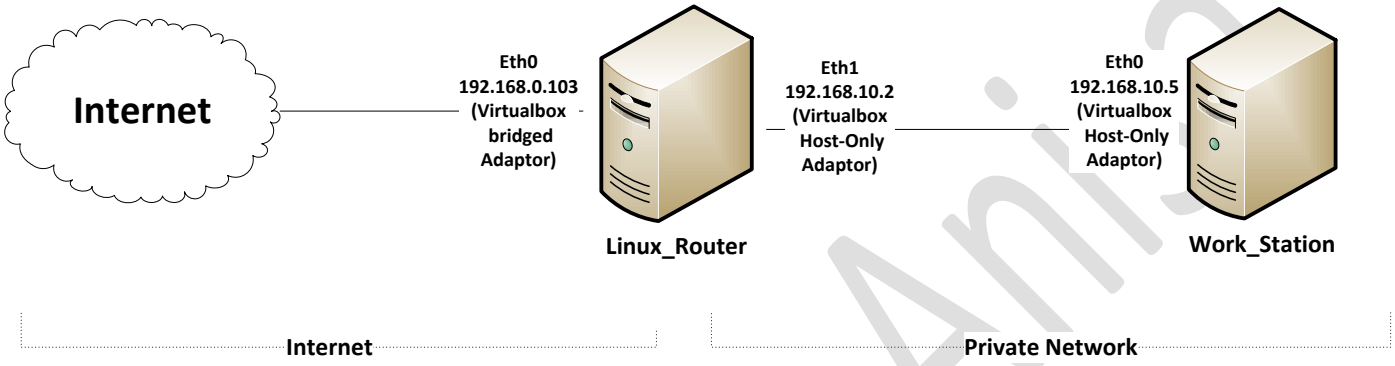
Workshop 3: Configuring Linux as a Router

Description:

This tutorial will cover using a Linux computer as a gateway between a private network and the internet. Here we need to have 2 computers for doing this scenario at now. So please add two machines as below on your environment.

Figure 1



1- Defining the machines states on the network.

Machine 1 (Linux_Router): Add this machine to your virtual environment named as “Linux_Router” then add two network interfaces (the first with bridged adaptor mode and second with host-only adaptor). Start the machine and check the network interfaces status.

Machine 2 (Work station): Also add this machine on your virtual environment named as “Work_Staion” which would be a client on your private network. Add one network interface with host-only adaptor mode and start and check the network status.

2- Enable packet forwarding on Linux_Router:

A Linux computer that's connected to two networks, as in the Linux computer in the center of Figure 1, can communicate with both of them; however, this configuration does not automatically link the two networks together. That is, computers on the 192.168.10.0/24 and 192.168.0.0/24 networks will not be able to communicate with each other unless that central Linux computer is configured as a router.

To enable this feature, you must modify a key file in the /proc filesystem:

root@Linux_router# echo "1" > /proc/sys/net/ipv4/ip_forward

3- Setup IP forwarding and Masquerading on Linux_Router:

(To act as router), you need to use NAT option of iptables as follows (add following rules to your iptables shell script) :

root@ Linux_router # /etc/init.d/iptables restart

root@ Linux_router # iptables –F (Flushing the iptable rules)

root@Router # iptables -t nat -A POSTROUTING -o eth0 -j MASQUERADE

root@Router # iptables -A FORWARD -i eth1 -j ACCEPT

Note : Eth0 >> internet

Eth1 >> Lan (Private network)

4- Setup a default Gateway on Work_Station:

root@Work_Station # route add default gw 192.168.10.2 eth0

5- Check the connectivity (route) from Work_Station:

root@Work_Station # ping www.yahoo.com

Good luck