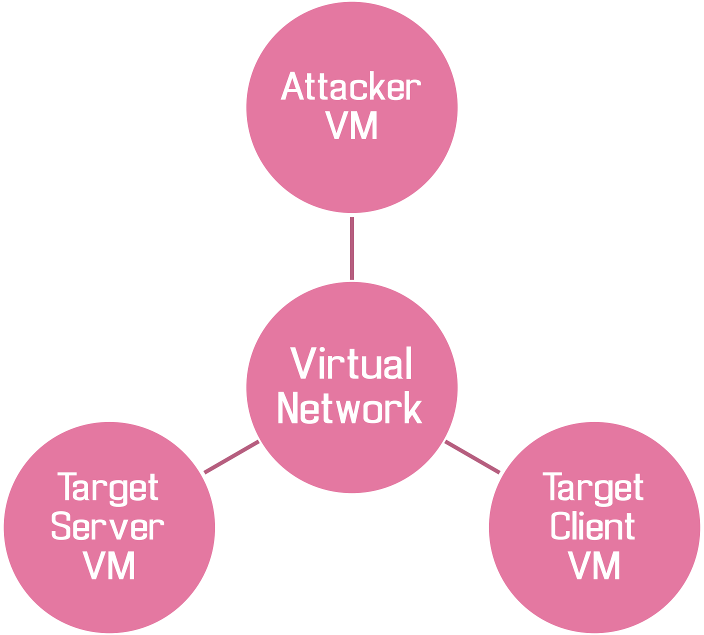
Setting up a PenTesting Environment

The aim

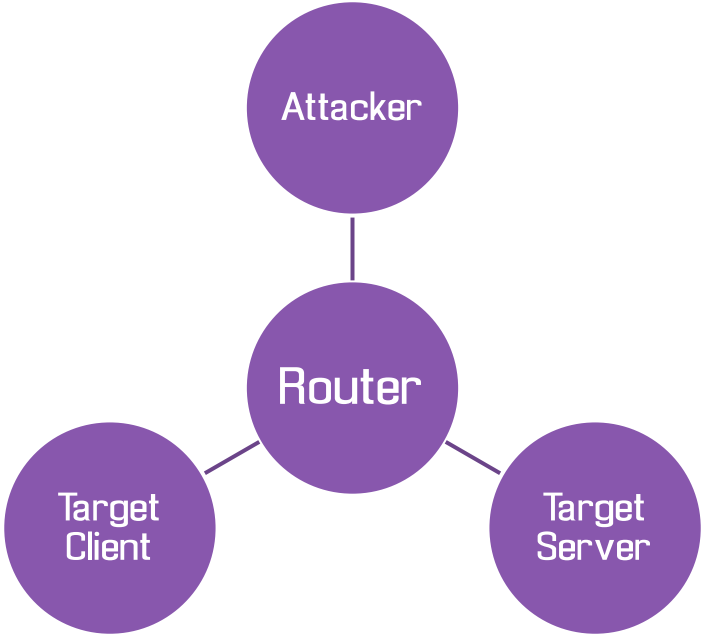
- To have an environment suitable to try out the skills you'll be learning
- To not have to perform any illegal activity
  - You'll only be hacking what you own
- To not interrupt anything else on your network
  - Whether accidentally or on purpose
  - Safety to try running exploits without HR tapping your shoulder.

What you'll need:

A computer with Virtual box



3 computers and your own router



The machines to create

The Offensive computer: Kali

- Will be our primary machine.
- Kali Linux is a specially maintained, debian based OS that comes pre-installed and configured with a bunch of security testing features
- Can be run in Live mode, but recommend a full install to store configs and scripts you create

The easy target: Metasploitable

- Will most often be the remote target.
- A pre-configured OS image
- Specifically built with a variety of vulnerable services and features enabled.
- Should *NOT* be put on any live network
  - It would be a serious weakness in any network, so we have it completely isolated from the internet

The desktop user: Ubuntu

- Used to demonstrate attacks on other user interfaces, such as XSS or MITM
- A fully patched, desktop installation of Ubuntu
- It’s just plain ol’ Ubuntu

Network Configuration

Setting up an isolated network in virtual box

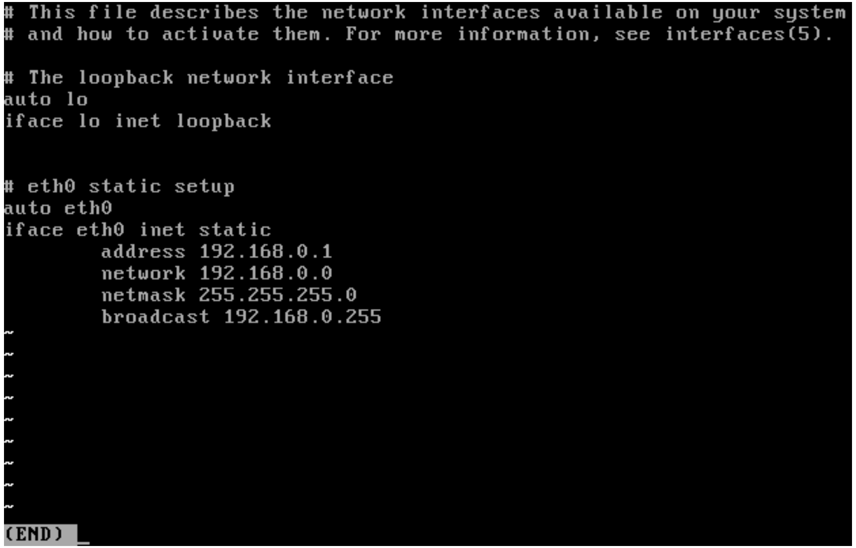
- Virtual box's "Internal Network" interface will allow our VM's to communicate without any external ingress/egress
- Does not come with DHCP, so we will manually assign ourselves IP addresses on boot.
  - Also ensures IP consistency between boots
- We will also add some shortcut domains to /etc/hosts for ease
  - Those these will have to be disabled if we later want to test DNS poisoning

Network Config

- We'll use 192.168.64.0/24 for our network
  - 192.168.64.2 will be Metasploitable
  - 192.168.64.4 will be Ubuntu
  - 192.168.64.8 will be Kali

Setting IP on boot (Linux)

- /etc/network/interfaces
  - Or a file in: /etc/network/interfaces.d/
- Configure the interface with a static IP address
- ifup / ifdown to turn an interface on or off
- ‘man interfaces’ for more information



```
# This file describes the network interfaces available on your system
# and how to activate them. For more information, see interfaces(5).

# The loopback network interface
auto lo
iface lo inet loopback


# eth0 static setup
auto eth0
iface eth0 inet static
        address 192.168.0.1
        network 192.168.0.0
        netmask 255.255.255.0
        broadcast 192.168.0.255
~
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(END)
```

Other stuff you’ll want

VirtualBox GuestAdditions

- Resizable screen
- Shared folders
- Clipboard integration

- Don’t bother installing on the metasploitable.

But I don’t want to be a sysadmin…

I’m working on it

- A vagrant environment that will bring up all the required machines and configure them
- Ability to update and give you new demos with the ‛git pull‛ of a repository
- Turns out trying to keep a VM isolated, but also updateable is hard