

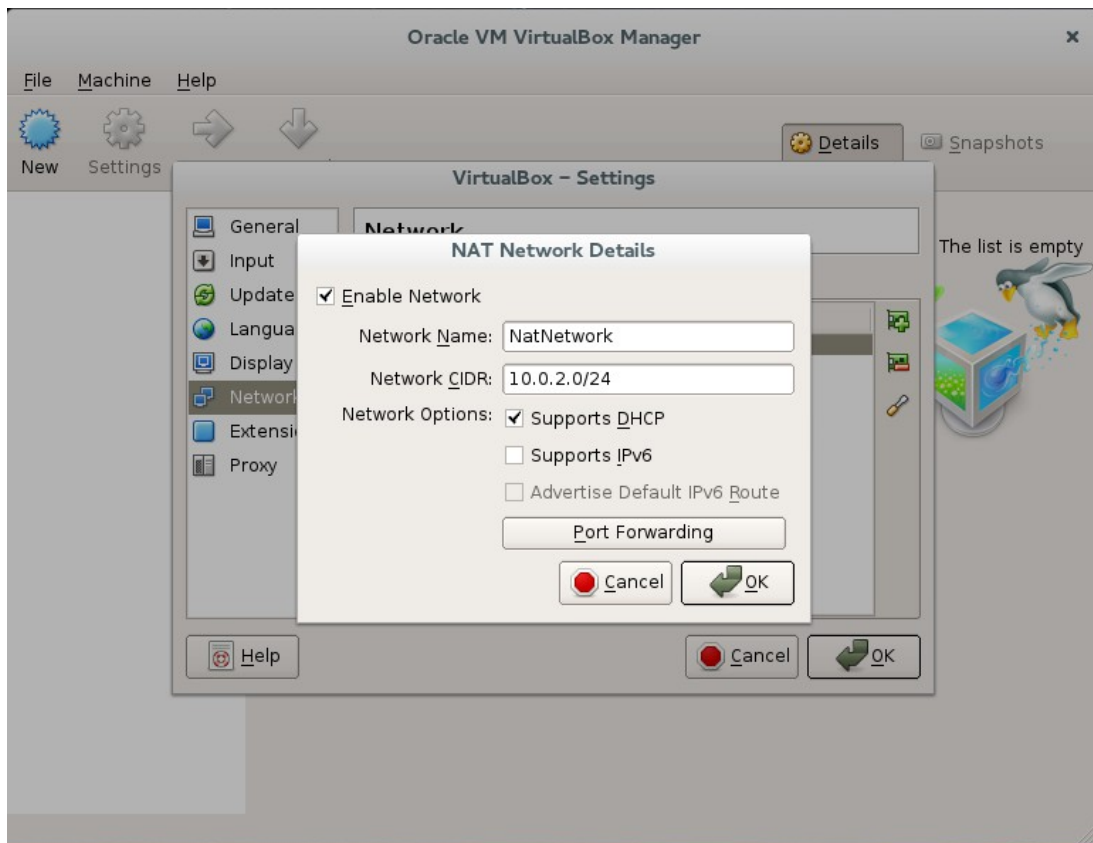
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Pen Testing Talk
Pre-Lab: Virtual Machine Setup

Lab Objectives:

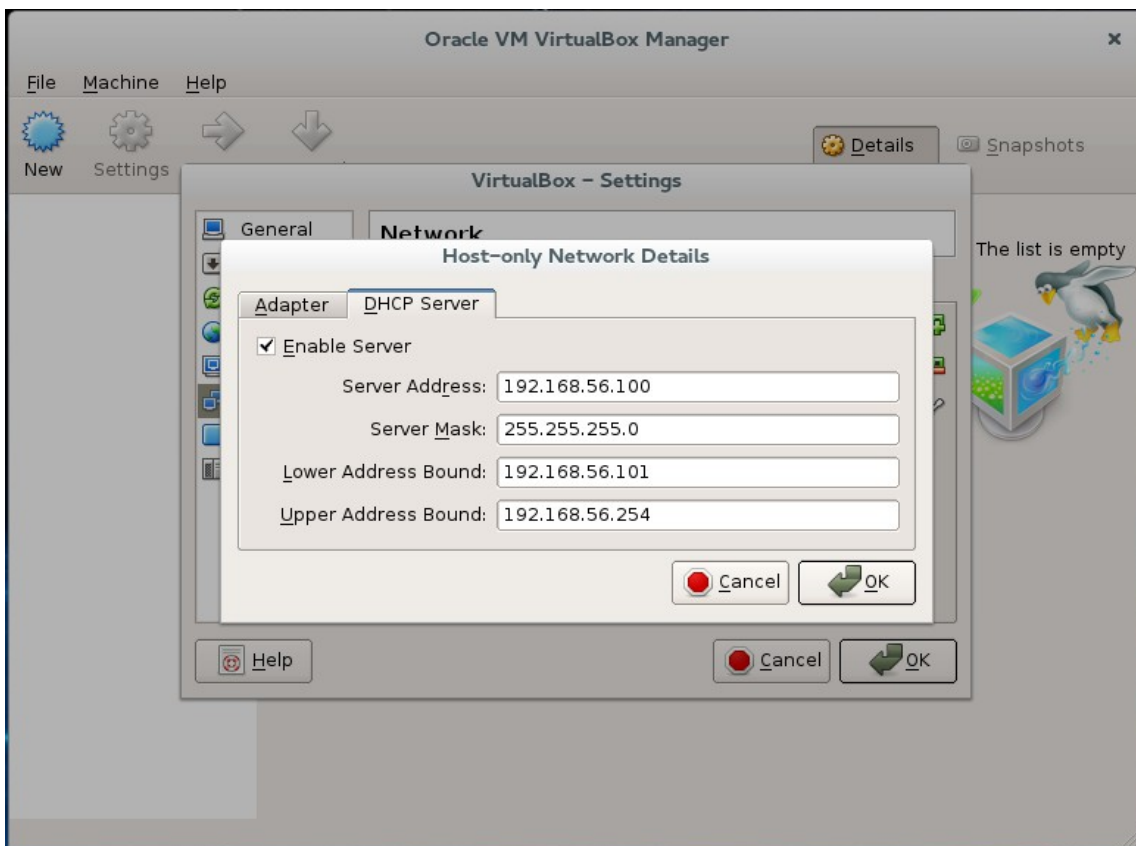
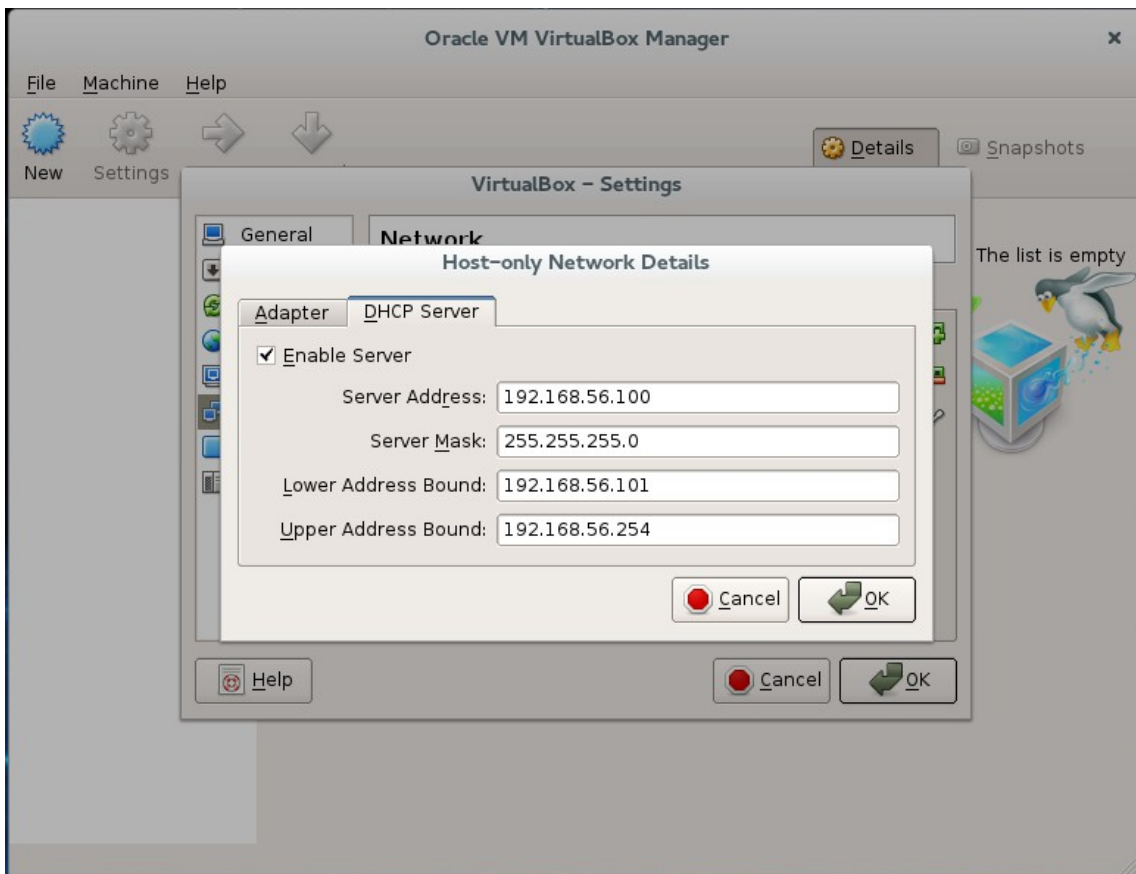
- Configure VirtualBox to support Kali Linux LiveCD and Metasploitable 2
- Configure Virtualbox networking to support both NAT Network and Host-Only Networking

Lab Procedures:

1. Download the latest version of the Kali Linux 64 bit ISO image:
<https://www.kali.org/downloads/>
2. Download the Metasploitable 2 virtual machine appliance zip file:
<http://sourceforge.net/projects/metasploitable/files/Metasploitable2/>
3. Start the Oracle VM VirtualBox Manager application
 - *Process may vary depending on Host Operating System*
4. Setup NAT Network in VirtualBox
 - Open the **File** menu and choose **Preferences**
 - The **Settings** window will open
 - Click on the **Network** item
 - Click on the **NAT Networks** tab
 - Click the **Add** button (*NIC image with +*)
 - You should now have an entry called *NATNetwork* that is set to active
 - Click the **Edit** button (*screwdriver image*)
 - Verify that **Supports DHCP** is checked
 - Verify that **Network CIDR** is not within the same subnet as the host's physical network
 - Click **OK** to close the settings window
 - See the screenshot on the next page for verification.



- Setup Host-Only Network in Virtualbox
 - Click on the **Host-only Networks** tab
 - Verify that there is already an entry called *vboxnet0*
 - If not add one by clicking on the **Add** button
 - Click on the **Edit** button
 - Verify the IP address settings for the Host adapter
 - Click on the **DHCP Server** tab
 - Enable the DHCP server
 - Verify that the IP address range is on the same network as the Host adapter from the **Adapter** tab
 - Click **OK** to exit **Preferences**
 - See the following screenshots for verification



5. Installing Kali Linux virtual machine (LiveCD)
 - From the main Virtualbox application window select the **New** button
 - Name the new system Kali
 - Type: Linux
 - Version: Debian (64 bit)
 - Click **Next**
 - Memory Size: 2048 MB
 - Click **Next**
 - Hard drive
 - Select “Do not add a virtual hard drive”
 - We will be running directly from the ISO image as a LiveCD
 - Click **Create**
 - Click **Continue** when the warning box pops up informing you about a missing hard drive
 - Right click the Kali virtual machine in the Virtualbox main application window
 - Select **Settings**
 - Click on the **System** tab and uncheck the **Floppy** and **Hard Disk** options in the **Boot Order** menu
 - Use the arrows on the side to move the **CD/DVD** option to the top
 - Click on the **Processor** tab and increase the number of processors to **2**
 - Click on the **Storage** option in the sidebar menu
 - Click on the **CD/DVD** drive icon listed in the **Controller: IDE** tree.
 - Use the drop down menu under **Attributes** (looks like a CD/DVD disc) and select your Kali Linux ISO image that you downloaded previously
 - Check the **Live CD/DVD** box
 - Click the **Network** item in the sidebar menu
 - Click the **Adapter 1** tab
 - Enable the network adapter
 - Attached to: **NAT Network**
 - Name: **NATNetwork**
 - Click the **Adapter 2** tab
 - Enable the network adapter
 - Attached to: **Host-only Adapter**
 - Name: **vboxnet0**
 - Click **OK** to exit the **Settings** window
6. Power on your virtual machine by clicking on it and then clicking **Start**
 - Choose the **Live 64** boot option in Grub to boot into the live Kali environment
7. Open up a terminal on the Kali virtual machine and type **ifconfig**. You should see that your virtual machine contains two network interfaces one is connected to your **NATNetwork** and the other to your **Host-only** network.
 - The **NATNetwork** interface is your gateway to the Internet if this type of connection is allowed on the workstation.
 - Ping `www.google.com`
 - The **Host-only** interface is a direct communication channel to and from the physical host computer and other virtual machines hosted on the isolated host only network.
 - Ping the host-only adapter (`192.168.56.1` is usually default)

8. Installing Metasploitable 2 virtual machine in Virtualbox
 - First unzip the Metasploitable2 zip file to extract the vdmk file.
 - From the main Virtualbox application window select the **New** button
 - Name the new system Metasploitable2
 - Type: Linux
 - Version: Ubuntu (64 bit)
 - Click **Next**
 - Memory Size: 512 MB
 - Click **Next**
 - Hard drive
 - Select “Use an existing virtual hard drive file”
 - Click the icon that looks like a folder and browse your computer for the Metasploitable2 .vmdk file that was extracted from the .zip file.
 - Click **Open**
 - Click **Create**
 - Right click the Metasploitable2 virtual machine in the main Virtualbox application window
 - Select **Settings**
 - Click on **System** in the sidebar menu and uncheck **Floppy** and **CD/DVD** in the **Boot Order** menu
 - Use the arrows on the side to move the **Hard Disk** option to the top of the boot order list.
 - Click on the **Audio** menu option in the sidebar menu
 - Uncheck **Enable Audio**
 - Click on the **Network** menu option in the sidebar menu
 - Under the **Adapter 1** tab change the “**Attached to**” option from **NAT** to **Host-only Adapter** and verify that the name is set to **vboxnet0**
 - Click **OK** to close the settings window
 - Highlight the Metasploitable2 virtual machine in the main Virtualbox application window and click the **Start** button
 - Once the system boots use the username *msfadmin* along with the password *msfadmin* in order to log into the system
 - Type **ifconfig** to discover the IP address of the system on the host-only network
 - From your Kali linux virtual machine open a terminal and use the **ping** command to verify that you can reach the Metasploitable2 virtual machine's IP address.
 - ie. (*your IP's may vary*)
 - Kali – 192.168.56.102
 - Metasploitable2 – 192.168.56.103
 - From Kali: **ping 192.168.56.103**
 - Once both of your virtual machines are online and you verify connectivity your setup is complete. You are now ready to have some fun exploiting the Metasploitable2 virtual machine from your Kali Linux virtual machine.