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Assignment 3, CNT4603, Langley

Installing VirtualBox and CentOS

The objective of this assignment involved two main parts: the first was to install VirtualBox on my Debian machine. The second part was to create a virtual machine inside VirtualBox and install CentOS onto it. The biggest challenge of the assignment was to get the network configured correctly on the resulting virtual machine.

Starting the project was pretty straightforward, as I had worked with VirtualBox in the past. I also have personal experience installing and configuring unix-like operating systems, usually done as a hobby in my free time. Therefore, the first step was to install VirtualBox. Virtualbox.org lists their official debian repositories, which usually offer more up-to-date versions than Debian's own offerings. Using the terminal, I added the appropriate listings to my sources.list file and added Oracle's public key using "sudo apt-key add". Then I simply executed "sudo apt-get update" to update my newly-added repositories, followed by "sudo apt-get install virtualbox". Aptitude took care of the rest of the installation. That completed the easy part.

Next was to configure VirtualBox with a new virtual machine. For this part, I basically followed the guidelines from the assignment's webpage. The only difference was that I assigned the virtual machine slightly less memory and virtual hard disk space than were specified, due to the fact that I wouldn't be installing a GUI on the virtual machine. In the network section of the virtual machine's configuration, I decided to go with using a "bridged" adapter, as after reading the VirtualBox networking documentation, I determined that it was the best option for my scenario.

After downloading the “minimal” .ISO image from centos.org, I proceeded to mount the image in my new virtual machine and for the first time, booted it up. The install of CentOS went without complications. After install, I logged into the new virtual machine’s OS for the first time. A consultation of “ifconfig” informed me that I had some problem-solving ahead of me. Although this was not unforeseen, as I had not been asked to enter any network configuration details during the CentOS install.

In the past, I had only configured Debian-based network settings, but this being a CentOS install (Red Hat-based), I now had to learn how to do it the Red Hat/CentOS way. The first step was to conduct some research. This involved a heavy amount of “Googling”. The most relevant webpage I found to aid me was directly from CentOS’s own website: “http://www.centos.org/docs/5/html/Deployment_Guide-en-US/s1-networkscripts-interfaces.html”.

After reading the page, I decided on the following configuration:

```
DEVICE="eth0"  
BOOTPROTO=none  
ONBOOT="yes"  
NETMASK=255.255.255.0  
IPADDR=192.168.10.121  
USERCTL=no
```

It appeared that my network configuration file was located at “/etc/sysconfig/network-scripts/”, so I modified it to look like the above snippet, saved the file and issued a “service network restart” command. “ifconfig” now shows the appropriate IP address, but pinging “google.com” results in “unknown host google.com”. Drat. I think I’m getting closer, though. This seemed like a DNS-related problem and sure enough upon re-inspection of my “ifcfg-eth0” file, I noticed I had neglected to mention the gateway or the DNS nameservers! After re-consulting the aforementioned CentOS network configuration webpage for confirmation of which parameters to use, I added a few lines to my “ifcfg-eth0” file:

```
DEVICE="eth0"  
BOOTPROTO=none
```

```
ONBOOT="yes"  
GATEWAY=192.168.10.1  
NETMASK=255.255.255.0  
IPADDR=192.168.10.121  
USERCTL=no  
DNS1=8.8.8.8  
DNS2=128.186.120.179
```

Now another "service network restart" and a ping of google.com and it works! Mission accomplished. One last check of "ifconfig" also confirms that everything looks as it should.

This assignment was an interesting one as I had never really forced myself to explore the likings of Red Hat Linux in the past, mainly due to the fact that I was so accustomed to and comfortable with Debian conformities. It made me think about a very valuable lesson, which is that one needs to be prepared to work with any number of operating systems, configurations, hardware, etc, while in the systems administration world. Fortunately, in this modern age, search engines such as Google appear to be a systems administrator's best friend in learning how to do things on the fly.