**CIS1360 – Week 9 Assignment 1**

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| **Date:** | **November 15, 2014** |
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| **From:** | **Christopher Sigouin** |
| **Subject:** | **Install a Network Operating System using virtual machine technology** |

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This assignment was to install Ubuntu Server 14.04.1 LTS into a virtual machine and then use it to provide services such as:

* **OpenSSH**
* **Apache2 WebServer**

First step was to download Ubuntu Server 14.04.1 LTS from the online source link. The link was supplied via email and I was able to download the .iso file successfully from the provided link (<http://releases.ubuntu.com/trusty/>). Once downloaded, I created a new virtual machine in VMWare noting the requirements for Ubuntu Server. When the virtual machine was created fully I then used the .iso file to install the operating system into the virtual machine with no initial services added.

The next requirement was to ensure that the server was able to utilize the service known as “OpenSSH”. Due to the initial installation with no services I was required to install openSSH via the terminal package manager “apt-get”. The following command showed me the available options to install that began with “openss“.

**sudo apt-get install openss [TAB][TAB]**

I proceeded to install openssh-server from the list using the following commands below:

**sudo apt-get update …THEN… sudo apt-get install openssh-server**

I then tested the service by creating a secure connection between my host OS and the guest OS using the software ‘Putty ‘which allows to create the connection via ssh. The connection was successful and I was able to look around the filesystem of the guest OS from the connected host.

Next task was to install the Apache2 Webserver service. Using the similar method prior with the openssh server I searched for the available options with ‘apt-get’ via the following command:

**sudo apt-get update…THEN…sudo apt-get install apache2**

Once installed I checked the IP address of the Ubuntu server VM. I was able to ensure it was listening by using ‘netstat –a | more’. In my browser on the host machine I typed in the IP address of the VM ( 192.168.44.128 ). It then displayed the default page.

A few issues arose while working with Apache2. At first I was using the wrong IP address for the longest time. It lead me though to learn how to set the ‘ServerName’ and ‘ServerAlias’ directive in a new .conf file I created for the virtual host that I called ‘mysite.conf’ located in /etc/apache2/sites-available. I also researched online to find that you could locally set your IP address to a domain name through /etc/hosts by listing it in the following manner:

192.168.44.128 mysite.com

This did not resolve if I used the domain name in the host browser though. Only with the IP address I was able to display the default page of index.html that was located in /var/www/html. I really didn’t need to edit any of the files as it stated on the Ubuntu server help page that it looks for any IP address that is assigned to the machine by default.