CSET 4850 Lab Assignment 1
Spring 2018
Title: Network and Service Configuration.

Before we start:
Before you use the virtual network, please refer to the LightVN tutorial to access the testbed. Use the given username and password to login to the website and the physical machines for your virtual network hosts. There are six virtual hosts for each virtual network: **Gemini, NFS, IntFW, ExtFW, DefaultGW, and DMZ.**

Description:
After you successfully login to the website and load the terminals for your lab, you can run commands such as *ping*, *ifconfig*, *route* inside each virtual host to show the network information.

Part I:
Your task is to figure out the static topology of the given network and verify whether it is fully connected, that is, within your network, you can *ping* from any computer to another one.

Part II:
Set up and start a few services including Web Server and SSH Server. When setting up these services, you can pick any virtual hosts to be the servers for them.

***Note**: all the required packages for the services have been pre-installed on the hosts in the virtual network, **so you do not need to download and install them again**. In fact, in current setup, you could not download and install new packages to your network. Use **ubuntu** as a password for **sudo** access. Your all virtual hosts have a user **ubuntu** with password **ubuntu.** You can use them as credentials for configuring the **SSH and Web** servers.

1) Web Server:
Pick a host to be the web server,
$sudo /etc/init.d/apache2 start

$lynx localhost
(lynx is a text-based web browser, you should see “It works!” message upon success.)
Modify /var/www/index.html to incorporate your personalized information.

On another host, run lynx webserver-ip-address to verify, for example,
$lynx 192.168.40.2

2) SSH Server:
Pick a host to be the ssh server,
$sudo /etc/init.d/ssh start

$ssh localhost

On another host, run ssh sshserver-ip-address to verify, for example,
$ssh 192.168.40.2

Also, enable public key based authentication on one host by following the instruction:
https://help.ubuntu.com/community/SSH/OpenSSH/Keys

Submittals:

In your report, draw a picture to illustrate the static topology of your network. Information such as hostnames, IP addresses, and sub networks need to be included in the topology. You need also label each host that runs a particular service, for instance, the web service is running on Dmz.
Describe the configuration parameters for each service. Also, include a paragraph to summarize the task that has been done by each member in your group. Each group need only submit one report.