Assignment 0

- Due Sep 10, 2024 by 11:59pm
- Points 0

VirtualBox

In this course, Oracle VirtualBox will be used to emulate a real-world scenario in which many machines reside in the same local area network. Oracle VirtualBox is a cross-platform, open source virtualization software that allows one computer to run multiple OSs in a simulated environment.

In the next set of assignments, we are going to emulate an attacker, a router and a victim machine. This scenario can be modeled without using virtualization of any kind but it would require three different machines. Using VirtualBox we can perform attacks on the network or the machines without any concern about overloading the network or infecting a victim's computer.

Virtual Machines

You can download the VMs in either of the following ways:

1- Download directly from :

- Kali:

https://mega.nz/file/hd4S1Q6L#vrfi2ajXrlunWMYXQs_VNDU2lDwxVVmX2FTsTWwtcg8 (https://mega.nz/file/hd4S1Q6L#vrfi2ajXrlunWMYXQs_VNDU2lDwxVVmX2FTsTWwtcg8)

https://drive.google.com/file/d/1AltV7tUhTZDoUhKdlEluXftGL7fWFuGo/view?usp=sharing (https://drive.google.com/file/d/1AltV7tUhTZDoUhKdlEluXftGL7fWFuGo/view?usp=sharing)

- Router:

https://mega.nz/file/h59HFJAK#gpInJ9m-dTKfVZA8hpm63Mq5znxFuOYuqFolnjBSiPQ (https://mega.nz/file/h59HFJAK#gpInJ9m-dTKfVZA8hpm63Mq5znxFuOYuqFolnjBSiPQ)

https://drive.google.com/file/d/1AmO1gBasdljGQxn3OS0Y85YApE2vTyup/view?usp=sharing (https://drive.google.com/file/d/1AmO1gBasdljGQxn3OS0Y85YApE2vTyup/view?usp=sharing)

- Windows 7:

https://mega.nz/file/RNZFGIwQ#A9xAnUtQxWvLBcX0j2q_NPfnYcK-_PP9etc8K6WNwuI (https://mega.nz/file/RNZFGIwQ#A9xAnUtQxWvLBcX0j2q_NPfnYcK-_PP9etc8K6WNwuI)

https://drive.google.com/file/d/1Alx_RLJ-ED09bLgd70kHsqWEiyzzqOsN/view?usp=sharing (https://drive.google.com/file/d/1Alx_RLJ-ED09bLgd70kHsqWEiyzzqOsN/view?usp=sharing)

2- Download from CSIL CPU computers using the following commands:

- Kali:

`scp -P 24 <ComputingID>@csil-cpu1.csil.sfu.ca:/usr/shared/CMPT/courses/cmpt782/Kali-2024.ova <local-filename>`

- Router:

`scp -P 24 <ComputingID>@csil-cpu1.csil.sfu.ca:/usr/shared/CMPT/courses/cmpt782/Router-2024.ova <local-filename>`

- Windows 7:

`scp -P 24 <ComputingID>@csil-cpu1.csil.sfu.ca:/usr/shared/CMPT/courses/cmpt782/Windows7-2024.ova <local-filename>`

Now, you should have three VM images with .ova extension:

- Router: Router is a VM that works like a Router for the other two VMs.
- Kali: Kali is a customized Linux distribution designed for penetration testing and will be used as the attacker system in the assignments.
- Windows 7

Import

For every filename, you downloaded *import* them to Virtualbox by following these steps

1. Open Virtualbox
2. Select File
3. Select Import Appliance
4. Choose one of the files you downloaded
5. Click Next and complete the guide

Running

Before running any of the three main operating systems you need to have Router running. Router is already preconfigured. After running Router opens the other VMs. Each VM should have an IP address in the range of `10.13.37.100` - `10.13.37.200` and a default gateway of `10.13.37.1`

The password for each user in the Operating Systems is the same as the username:

- kali/kali: For Kali linux
- user/user for Windows 7

For the Windows 7 open a Command Prompt and run the command

```
ipconfig
```

to find the IP address and the default gateway

For the Kali Linux to find the IP address open a terminal and run the command

```
ifconfig
```

The default gateway can be obtained with the command

```
route -n
```

If any of the VMs does not appear in the network follow the steps below to ensure that it is in the `cyberlab internal network`, assuming that the Router is running:

1. Open VirtualBox
2. Right click the VM
3. Select Settings
4. Select Network
5. Confirm that the network adapter is `Internal Network` and the name is `cyberlab.`
6. Update the setting if that's not the case and restart the VM.
7. For the router confirm that there are two adapters, one should be set to Internal Network (cyberlab) and the other should be NAT.

Note:

- The Kali VM might start without a GUI at times. The fix for this is to restart the VM.

Alternative Link: https://drive.google.com/drive/folders/1MaNe47OPIKtFKcJhARagC6rsfWKUpbU3?usp=drive_link