University of New Brunswick
Faculty of Computer Science
Network Security-Winter 2023
Hands-on 1- Register/connect to your lab- Socket programming API

CIC

This handout will get you up to register and connect to a private Lab (3 VMs included) for all your handouts and assignments.

Instructions:

- Follow the ITS instruction to register/connect a Lab under your name:
 https://www.cs.unb.ca/help/remote-lab-gui-access.shtml
  Important steps:
    o To connect FCS labs, you need to use your FCS password. In case you cannot remember FCS password, you can reset FCS password and sync it with your UNB password.
    o Install FortiClient VPN application from the following link and connect to UNB VPN.
   ➔ https://unbcloud.sharepoint.com/sites/ITServices/SitePages/VPN.aspx
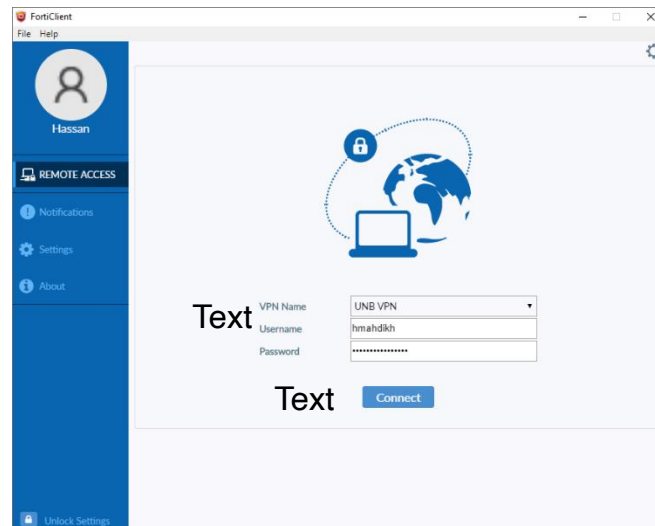
    o Remotely connect to FCS's labs using web interface by clicking Lab Remote Desktop button.

- One of the FCS's machines will automatically be assigned from the existing pool to you.
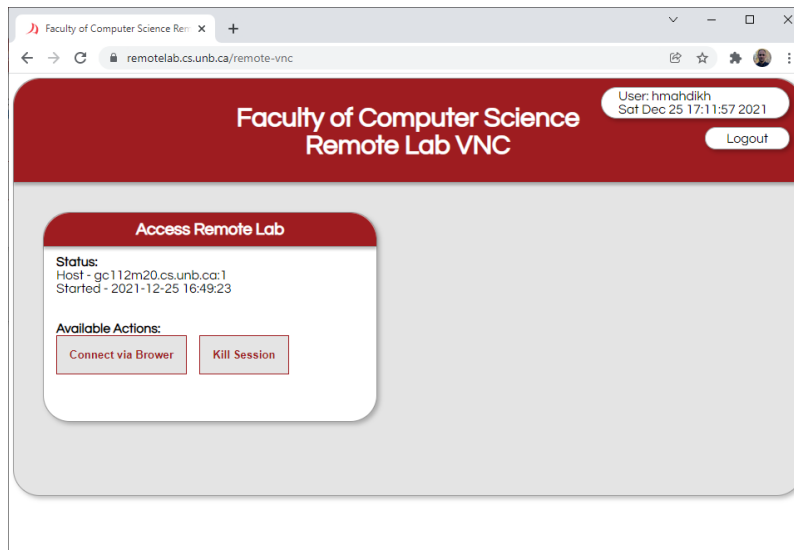

- Push "Connect via Browser" to connect the host machine via NpVNC that is open-source JavaScript and web-based VNC client. Then you will be asked to enter your credential.
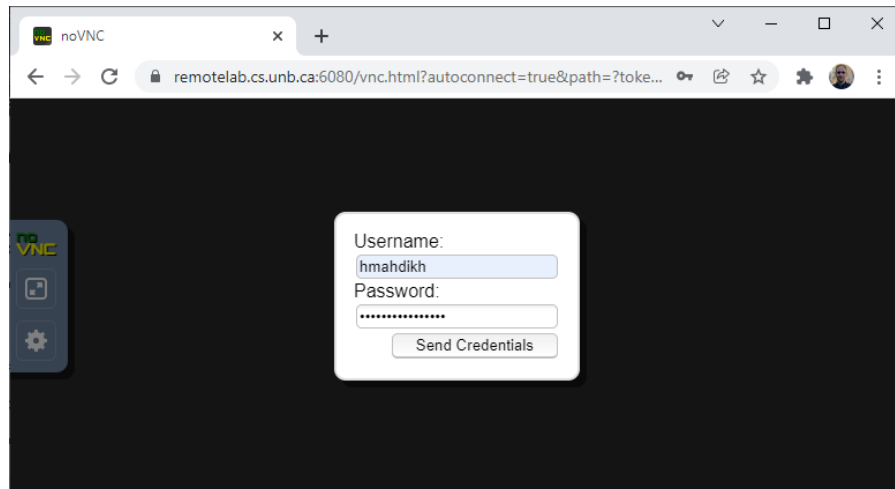

- After connecting to your host machine, in the "Applications" menu, select "FCS-VMs"
- In the "FCS-VMs, there are three VMs for this course:
  - o Security Attacker VM
  - o Security Victim Ubuntu VM
  - o Security Victim Win7 VM
    - ➔ Please do not use other machines/Labs as they are for other courses.
    - ➔ To login into the operating systems use "fcssecurity" password.
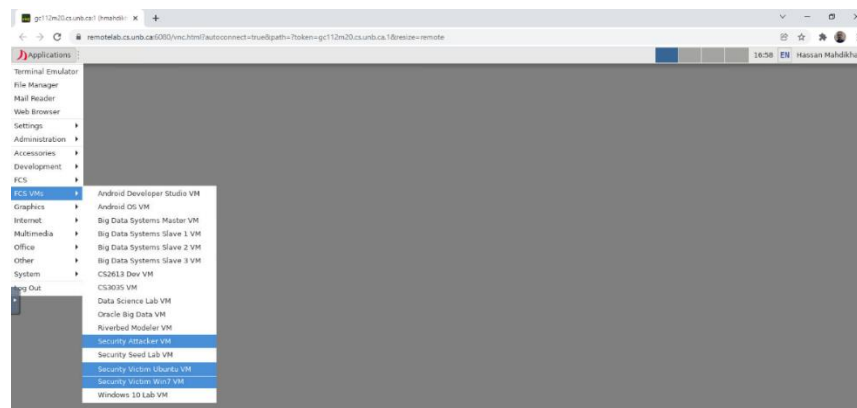
- Now you can continue the remaining part of this hands-on.
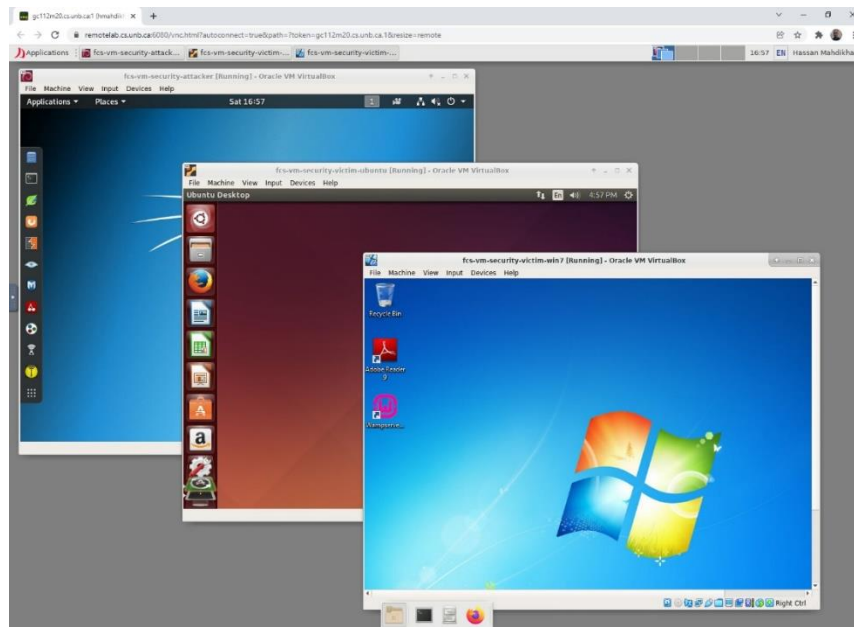
→ **Important note:** You should shut down the VMs and terminate your session by clicking on your name in the top right-hand corner and selecting Log Out when you are done your lab activities to kill the process associated with your session.
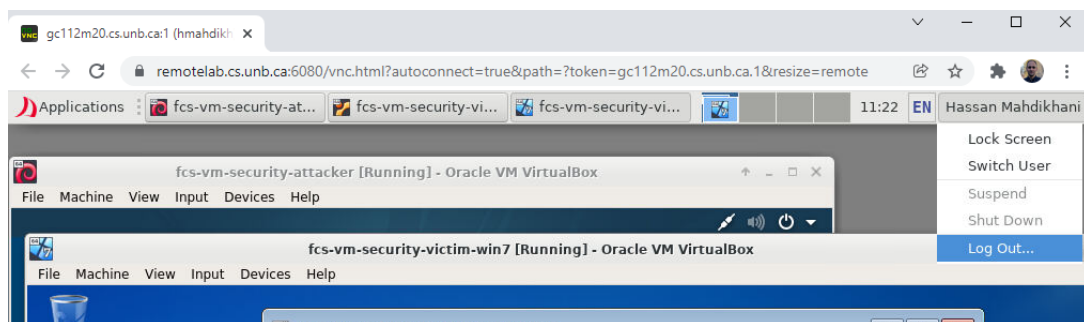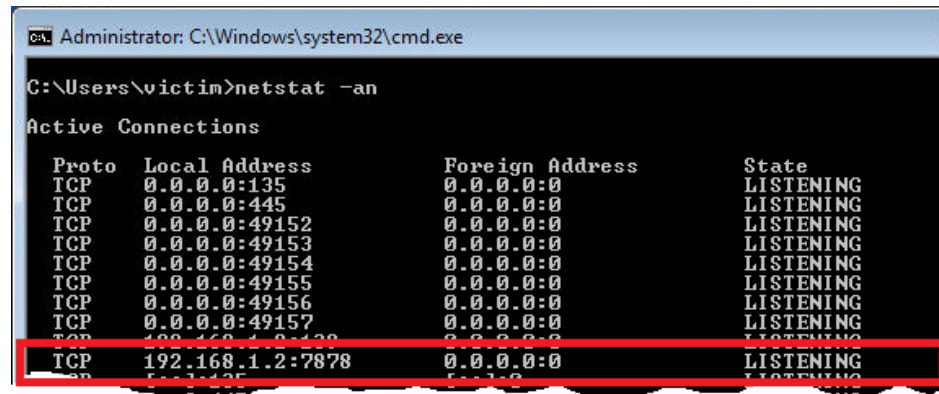

Instructions:
1. Download the simple Client/Server Socket program developed by C#.Net from D2L on Windows victim machine.
2. Extract the Socket.Zip file.
3. Execute ServerSide.exe from **ServerSide/bin/Debug** and assign a valid port number and push the **Start** button.
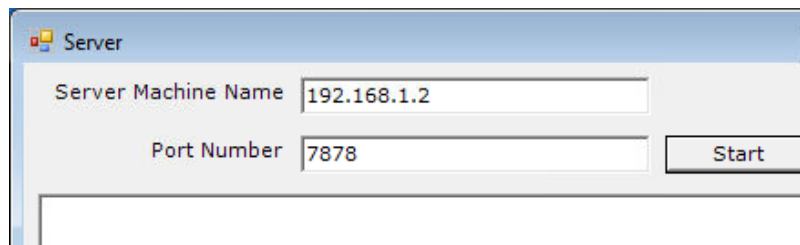
4. Execute **cmd** and type **netstat -an** command to see the socket state, protocol, and local/foreign addresses.
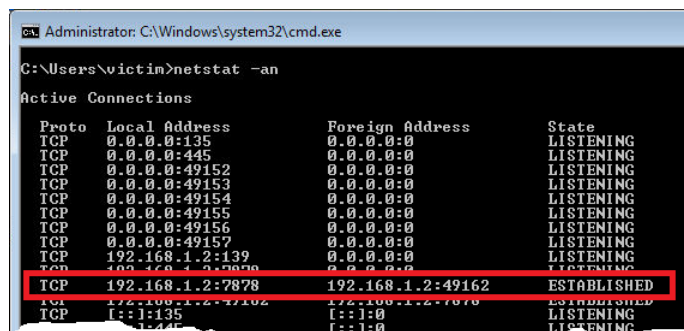
5. Execute Client.exe from **ClientSide/bin/Debug** and set the **Remote Machine Name**,i.e., Server's IP Address (192.168.1.2), as well as the **Remote Port Number** equals with the port number that server is listening to (7878). Then, click the **Connect** button.
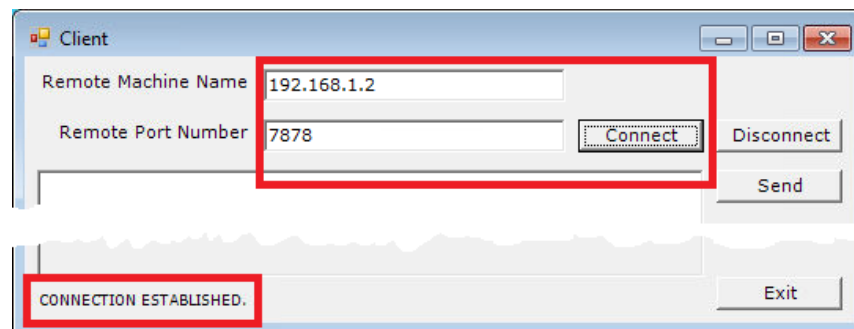
6. When the connection is established, send sample texts between Client and Servers and then, execute **netstat -an** command again to see the connection state.

7. Disconnect the Client and Server and run **netstat -an** command again.