Networking!

Initial Setup

1. Register an account at https://kamino.calpolyswift.org/, log in, and deploy the CCDC-Networking-Week template.

2. Log into https://elsa.sdc.cpp/ with the account you just registered on Kamino. After, show a screenshot of the vSphere web page.

Deliverables

1. You should have 2 Windows Server virtual machines, and one Cisco router virtual machine.

   The login for both Windows Servers is: **Administrator:ccdcBootcamp123**

   a. Assign the Windows Server 2019 virtual machine a static IP address of 192.168.1.50 - show **a screenshot of your configured network interface IPv4 properties** as proof.
   b. Assign the Windows Server 2022 virtual machine a static IP address of 192.168.1.60 - show **a screenshot of your configured network interface IPv4 properties** as proof

2. There are two web servers on each Windows VM. What ports are they running on? **Show what all 4 homepages look like** *(to access sites on different ports, use :[port] after the IP or domain name. Ex: http://127.0.0.1:443)*.

3. The Cisco router is currently not configured for 1 to 1 NAT, which is necessary to allow users outside of the company network to access all of the web servers.

    a. Set your outside interface - *GIgabitEthernet1* - to have the ip 172.16.[your vSphere pod ##].1 *(you will have to reconnect to the new IP)*
        i. You might have to use the CLI for this step. It can be accessed through vSphere.
        ii. You **MUST** do this step first.
        iii. Username: cisco
        iv. Password: cisco123!
        v. Use 255.255.0.0 for the subnet mask
    b. Add NAT rules under config -> NAT for outgoing and incoming to configure 1 to 1 NAT *(either through the command line, or web interface).*
    c. Show a screenshot of the NAT configuration page.
    d. Show **two screenshots of you successfully connecting to a webserver** on each VM from your host, using their respective 1 to 1 NATed public IPs (should be http://172.16.[XX].50 & http://172.16.[XX].60).

4. On Mono, there is one web server that is clearly not relevant to the business, and one that is.

    a. Use powershell to enable all the windows firewall profiles, set the default inbound policy to block, and add an allow exception for the business web server's port. Submit screenshots of **(1) the firewall commands used**, along with **(2) a screenshot showing you are no longer able to connect to the blocked website from Mono**.

5. On Six, one of the web servers states that it is not supposed to be accessible on the public internet.

a. Using the router firewall, configure rules to only allow outside access to websites hosted on the port of the public website.

   i. **Submit screenshots of the firewall configuration.**